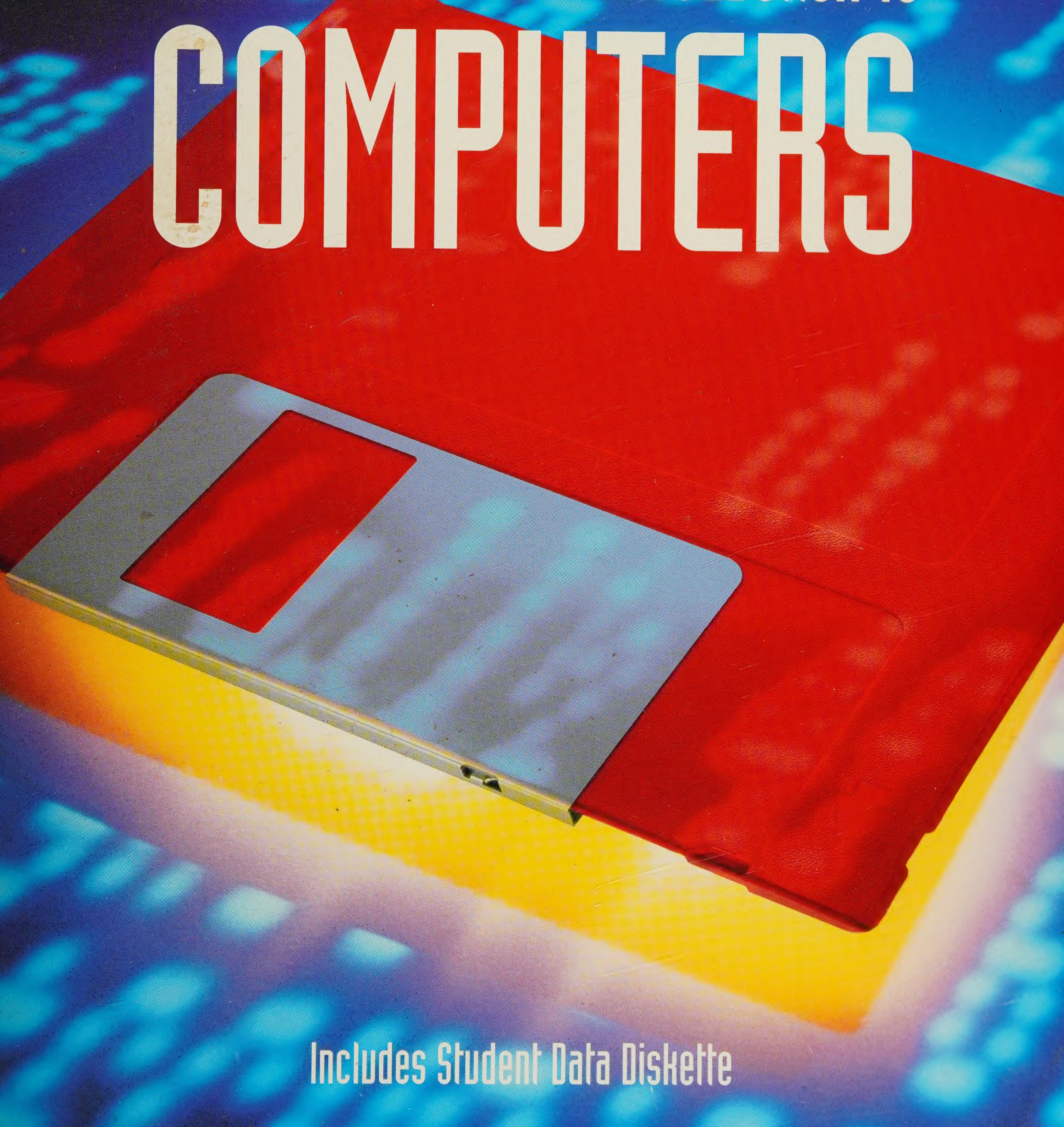
MS-Office Professional 4.3 for Windows

A Tutorial to Accompany

Peter Norton's Introduction To COMPUTERS



Includes Student Data Diskette

C. KRAUTHAMER

MICROSOFT
OFFICE
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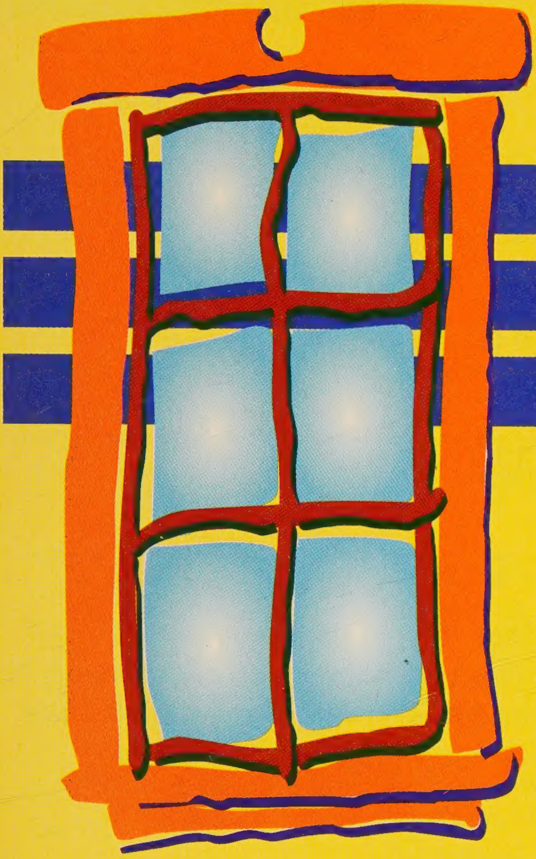

MICROSOFT OFFICE FOR WINDOWS

A TUTORIAL TO ACCOMPANY PETER NORTON'S INTRODUCTION TO COMPUTERS

NED RACINE

GLENCOE
MCGRAW-HILL

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Microsoft Office for Windows
A Tutorial to Accompany
Peter Norton's Introduction to Computers

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CONTENTS

Preface, vii

INTRODUCTION
MICROSOFT WINDOWS BASICS WIN-1

MS OFFICE LESSON 1
USING MICROSOFT OFFICE MSO-1

MICROSOFT WORD FOR WINDOWS

Preface, WRD-vii
Lesson 1: Word Basics, WRD-2
Lesson 2: Creating and Editing Documents, WRD-42
Lesson 3: Formatting Text, WRD-64
Lesson 4: Creating a Newsletter, WRD-92
Lesson 5: Working with Graphics, WRD-124
Lesson 6: Working with Long Documents, WRD-146
Command Summary, WRD-173
Glossary, WRD-181
Index, WRD-187

MICROSOFT EXCEL FOR WINDOWS

Preface, EXL-vii
Lesson 1: Starting Excel and Creating a Budget Worksheet, EXL-2
Lesson 2: Editing and Formatting a Budget Worksheet, EXL-44
Lesson 3: Using Advanced Worksheet Editing Features, EXL-90
Lesson 4: Customizing Excel and Setting Up Printed Pages, EXL-138
Lesson 5: Creating Charts and Enhancing Worksheet Data, EXL-172
Command Summary, EXL-215
Glossary, EXL-221
Index, EXL-227

MS OFFICE LESSON 2
INTEGRATING WORD AND
EXCEL DATA MSO-17

MICROSOFT ACCESS FOR WINDOWS

Preface, ACS-vii
Lesson 1: Introducing Access, ACS-2
Lesson 2: Designing and Creating Databases, ACS-34
Lesson 3: Adding and Maintaining Data in Datasheet View, ACS-64
Lesson 4: Retrieving the Data You Need: Sorting and Selecting Records, ACS-98
Lesson 5: Viewing, Entering, and Editing Data with Forms, ACS-128
Lesson 6: Generating Reports and Mailing Labels, ACS-156
Lesson 7: Advanced Topics, ACS-188
Command Summary, ACS-216
Glossary, ACS-223
Index, ACS-228

MS OFFICE LESSON 3 INTEGRATING WORD, EXCEL, AND ACCESS DATA MSO-33

MICROSOFT POWERPOINT FOR WINDOWS

Preface, PPT-v
Lesson 1: PowerPoint Basics, PPT-2
Lesson 2: Creating a New Presentation, PPT-30
Lesson 3: Working with Slide Masters, PPT-64
Lesson 4: Adding Graphs, Tables, and Organization Charts, PPT-88
Lesson 5: Producing Your Presentation, PPT-110
Glossary, PPT-133
Index, PPT-136

MS OFFICE LESSON 4 INTEGRATING WORD, EXCEL, ACCESS, AND POWERPOINT DATA MSO-49

PREFACE

This *Microsoft Office for Windows* tutorial is one of the instructional tools that complement *Peter Norton's Introduction to Computers*. Glencoe and Peter Norton have teamed up to provide a new approach to computer education, one not reflected in traditional computer textbooks. The text and its ancillary materials are grounded in the philosophy that knowledgeable, empowered end users will provide the gains in productivity that both business and individuals need in the 1990s and beyond. Mere button pushing is not enough; in order to handle increasingly complex computer tasks, both in the workplace and in the home, computer users must understand the concepts behind their computer hardware and software.

STRUCTURE AND FORMAT OF THE MICROSOFT OFFICE FOR WINDOWS TUTORIAL

Microsoft Office is a software suite that includes several software tools:

- Microsoft Word is used for word processing
- Microsoft Excel is used to create spreadsheets
- Microsoft Access is a database management tool
- Microsoft PowerPoint is used to create presentations

There are sections of this book devoted to each of these tools. In addition, there is an Introduction that covers basic Windows skills and several lessons devoted to Office itself. The first Office lesson, which immediately follows the Introduction, explains how Office works and shows you the component tools and what they can do. The remaining Office lessons explain how to integrate data between applications, since software integration is one of the major advantages of using a software suite, such as Office. There is an integration lesson following the Excel tutorial, one following the Access tutorial, and a final integration lesson after the PowerPoint tutorial. Each of the integration lessons includes a group of projects that are designed to give you practice integrating data among several programs.

Every lesson in this book includes the following:

- *Explanations of important concepts.* Each section of each lesson begins with a quick explanation of the concept or software feature being covered.
- *New terms in bold face.* An important part of learning about computers is learning the terminology. Each new term in the text is set in **bold face** and defined the first time that it is used.
- *Step-by-step instructions.* Because most people learn best by doing, each explanation is followed by a concise set of steps, which you complete at the computer.

- *Many illustrations.* As you work through the tutorial, you will find many figures that help you stay on track. The figures are used to point out features on the screen and illustrate what your screen should look like after important steps are completed.
- *Command summaries and end-of-lesson exercises.* Except for the integration lessons, all of the lessons in this book contain end-of-lesson summaries, review questions, and projects to help you review the material. In the integration lessons, additional projects have been substituted for summaries and review questions.
- *Student Data Disks.* Attached to the inside back cover of this book you will find a floppy disk called the Master Data Disk. It includes compressed versions of the six disks you will need in order to complete the lessons and projects in this book. It also contains a DOS program, called MAKEDISK, that automates the process of creating each disk.

  To create any of the disks, you must have a high-density (1.44MB), 3.5-inch floppy disk. Place the Master Data Disk in your floppy disk drive, choose Run from the File menu. In the Windows Program Manager, type **A:\MAKEDISK A** or **B:\MAKEDISK B** (depending on which floppy drive you are using), and press the Enter key. Then simply follow the instructions in the MAKEDISK program.

  You do not need to create any of the disks to complete the Introduction; you should use the Master Data Disk. Before beginning the Microsoft Office lessons, you need to create two disks: the Student Lesson Disk and the Student Project Disk for Office. Before beginning any of the applications tutorials (Word, Excel, Access, or PowerPoint), you need to create the Student Data Disk for the appropriate tutorial. Once again, simply follow the directions in the MAKEDISK program to create each disk.

ABOUT PETER NORTON

Peter Norton is a pioneering software developer and author. Norton's *Desktop for Windows*, *Utilities*, *Backup*, *AntiVirus*, and other utility programs are installed on millions of PCs worldwide. His *Inside the IBM PC* and *DOS Guide* have helped millions of people understand computers from the inside out.

Glencoe has teamed up with this trusted name in computers to help you better understand the role computers play in your life. You may use this resource as a textbook now and a reference book later as you begin your productive use of computers in your chosen profession.

REVIEWERS

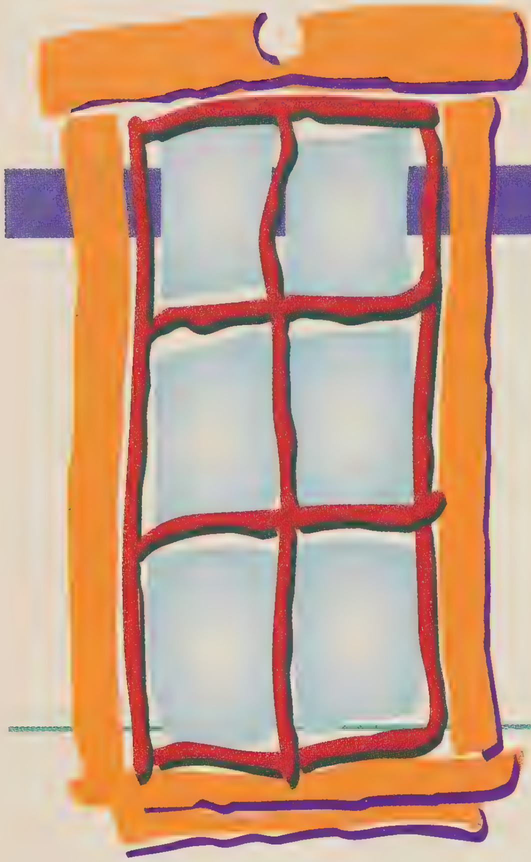
Many thanks are due to the following people, who reviewed the manuscript and gave advice on how to improve the book.

Don Bushe, Saddleback College

Mark Hall, Community College of Spokane

Mary Louise Kelly, Palm Beach Community College

INTRODUCTION
MICROSOFT
WINDOWS BASICS



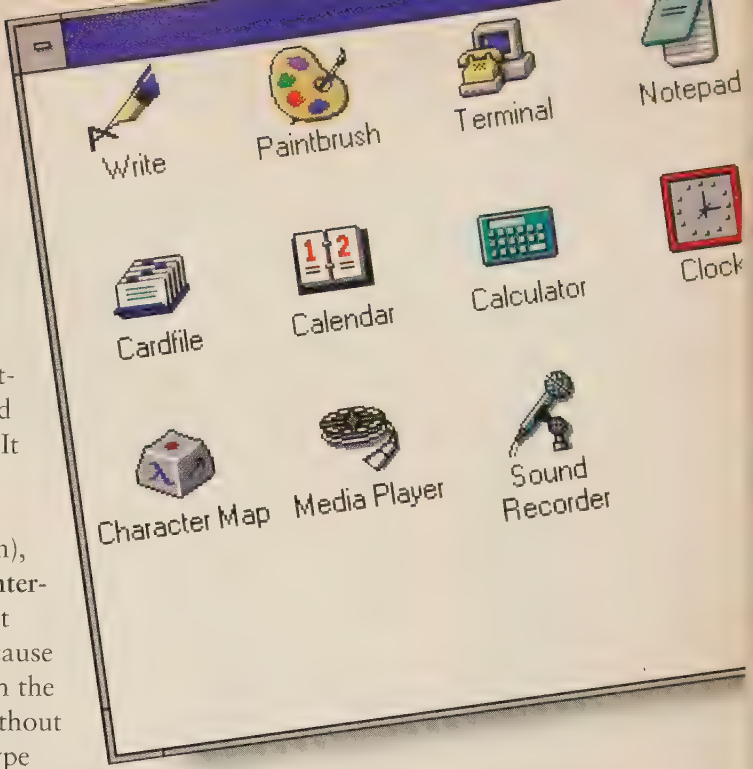
INTRODUCTION

MICROSOFT WINDOWS BASICS

OBJECTIVES

After completing this lesson, you will be able to do the following:

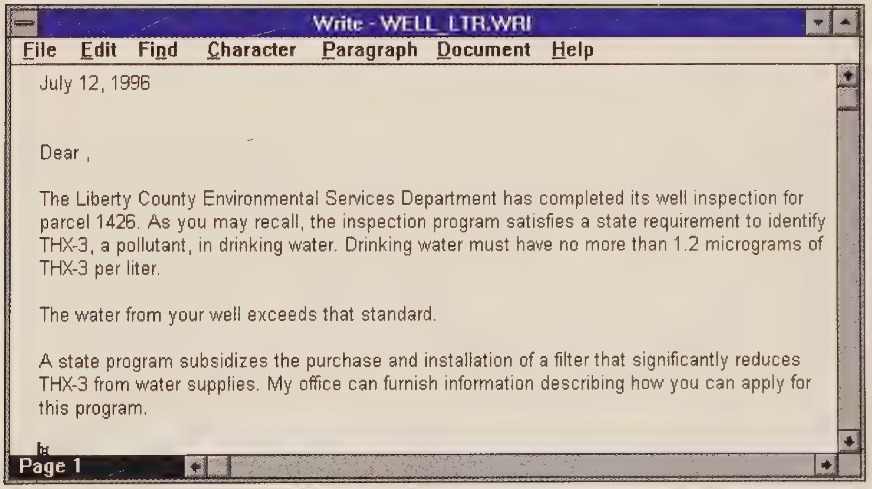
- *Explain what makes the Microsoft Windows operating environment different from the DOS operating system.*
- *Start the Windows program.*
- *Name the parts of a typical window.*
- *Perform each of the four basic mouse techniques.*
- *Use the Program Manager to find and start an application program, such as Word.*
- *Switch between active programs.*
- *Manipulate the size and placement of on-screen windows.*
- *Scroll through a window.*
- *Use menus and dialog boxes.*
- *Choose a printer, if the computer is connected to more than one.*
- *Get help using the Help system.*
- *Use the File Manager to move and copy files, and to format a floppy disk.*
- *Quit Windows.*



Many computers today use a program called Microsoft Windows (or Windows, for short). **Windows** is an operating environment for IBM and IBM-compatible computers. It supplements the computer's operating system, known as **DOS** (Disk Operating System), by adding a **graphical user interface**, or GUI. A GUI makes it easier to use a computer, because you can interact directly with the things you see on screen. Without a GUI, you would have to type words and symbols on the keyboard to control the operating system.

Many application programs, such as Excel, PowerPoint, and WordPerfect for Windows, are written to operate within the Windows environment. To use them, you start Windows, then start the application program. (**Application programs**, or just **applications** for short, are programs you use to do work, such as word processing programs or spreadsheet programs.)

Microsoft Windows gets its name because each program that runs within it appears in a **window**, a rectangular area on screen (as shown in Figure WIN-1).



July 12, 1996

Dear ,

The Liberty County Environmental Services Department has completed its well inspection for parcel 1426. As you may recall, the inspection program satisfies a state requirement to identify THX-3, a pollutant, in drinking water. Drinking water must have no more than 1.2 micrograms of THX-3 per liter.

The water from your well exceeds that standard.

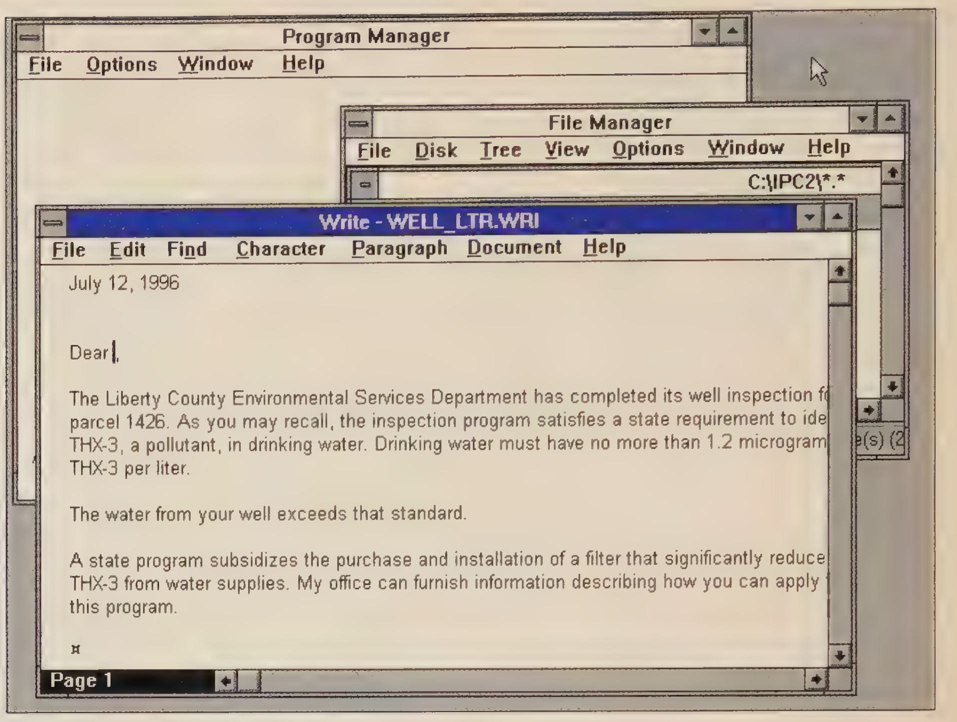
A state program subsidizes the purchase and installation of a filter that significantly reduces THX-3 from water supplies. My office can furnish information describing how you can apply for this program.

FIGURE WIN-1
A window.

One of the most important features of Windows is that you can run more than one program at once, a feature known as **multitasking**. As a result, more than one window can be open at once. Figure WIN-2 shows Windows running with several windows open on the screen.

FIGURE WIN-2

Three windows.



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The water from your well exceeds that standard.

A state program subsidizes the purchase and installation of a filter that significantly reduce
THX-3 from water supplies. My office can furnish information describing how you can apply
this program.

¤

STARTING WINDOWS

Typically, you start Windows from the DOS prompt. The DOS prompt is normally a letter followed by a colon, backslash, and greater-than sign (C:\>).

NOTE *Your computer may require different startup instructions. If it does, your instructor will provide them.*

START WINDOWS

1. To start Windows from the DOS prompt, type **win**
2. Press Enter.

When you start Windows, you will see the Windows title screen. This screen shows the version of Windows installed on your computer. The version number must be 3.0 or higher to work with most current Windows-based programs.

The title screen disappears automatically, and a screen similar to Figure WIN-3 appears.

There are several reasons why your screen may look different from the one shown in Figure WIN-3. First, the colors on your screen may be different. The colors don't affect how Windows runs, and you can change them to any scheme you like. (This book doesn't cover how to change the colors,

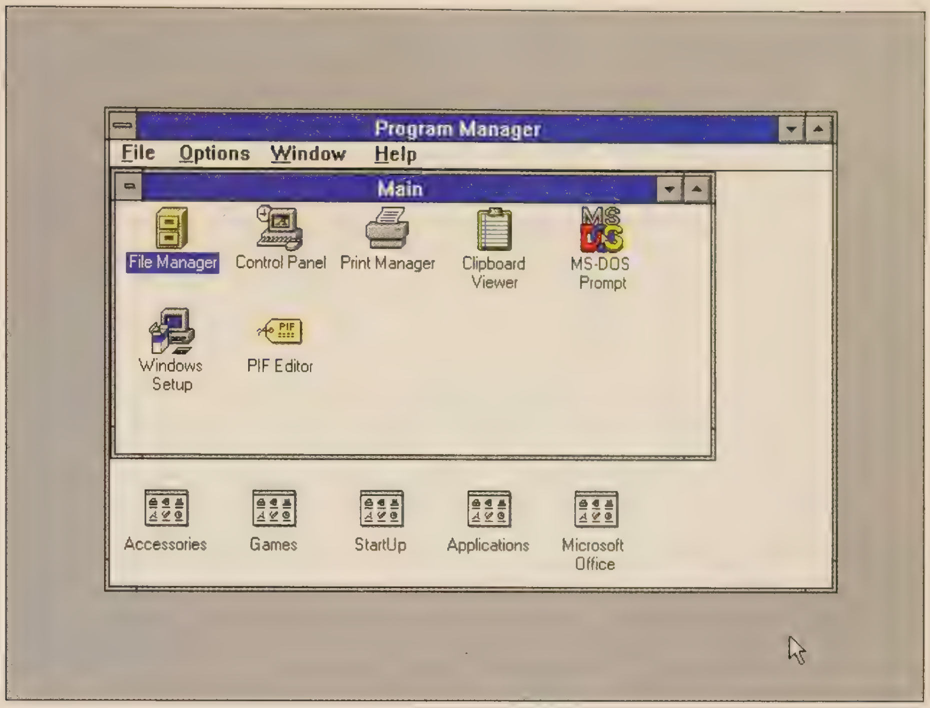


FIGURE WIN-3
The opening screen in Windows.

but you can easily learn using the Help system, which is covered near the end of this lesson.)

The second reason your screen may look different is that you may have almost any number of windows open on your screen when you start Windows. Or, you might have just one window that is taking up the whole screen. Don't worry, you'll learn how to close them all and open just the ones you want in the sections that follow.

Finally, your screen may look different because Microsoft Office may automatically start when you start Windows. If this is the case, your instructor will show you how to shut down Office or hide it from view.

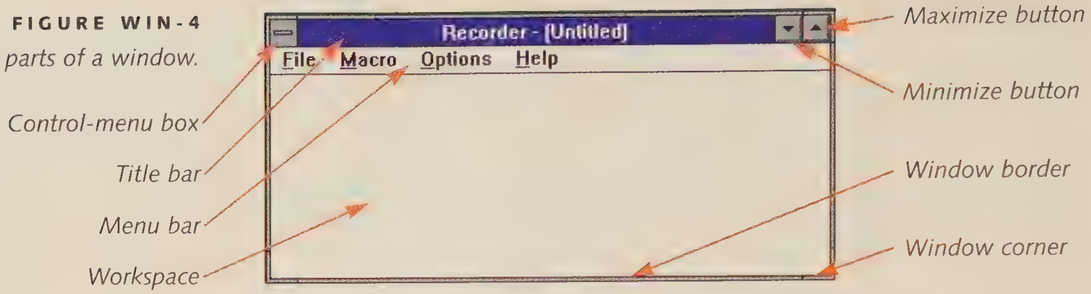
PARTS OF A WINDOW

All windows contain several basic elements. The common window elements, shown in Figure WIN-4, are:

Title bar	The shaded bar at the top of the window that displays the name of the window.
Control-menu box	The box in the upper-left corner of the window. Clicking this box displays the Control menu, which contains options for manipulating windows. Double-clicking the box closes the active window.
Minimize button	The box in the upper-right corner containing a down arrow. Clicking this button shrinks the window to its icon.
Maximize button	The box in the upper-right corner containing an up arrow. Clicking this button enlarges the window to fill the entire screen.

FIGURE WIN-4

The parts of a window.



Menu bar	The area below the Title bar that displays menu names, such as File, Options, Window, and Help.
Workspace	The area in the window that displays the information with which you are working. For example, in a word processing program, the workspace would be filled with the text of the document you are completing.
Window borders	Boundary lines surrounding the window.
Window corners	The four corners of the window border. They are used to adjust the size of the window.

USING THE MOUSE

To operate Windows and most Windows-based programs, you use a mouse. The **mouse** is a rolling device with one or more buttons that lets the user select commands, move objects, or get information by controlling an on-screen pointer. Some computers, especially small laptops, have other devices, such as trackballs, instead of mice. You use the mouse (or its equivalent) to control the **pointer**, which is a small symbol (often an arrow) that shows your on-screen location, as shown here: ↖

You move the pointer by rolling the mouse on a small mat called a **mouse pad** (or on any flat surface, if you do not have a mouse pad). On a typical mouse, a rubber ball on the bottom of the mouse translates your movements to the computer.

Before you can work with an object on screen, you usually need to **select** it. You select items by clicking on them—pointing and pressing the mouse button. The terms "choose" and "select" mean the same thing.

Your mouse probably has two or three buttons. Whenever you are told to "click" or "double-click" the mouse button, use the left button. In cases where you should use the right button, you will be told to do so. (If your school has computers specially set up for left-handed users, the mice for these computers are set up to recognize the right button as the main one, rather than the left one.)

There are four ways to operate the mouse:

Point	When you **point**, you move the mouse until the tip of the on-screen pointer is on top of an on-screen item.

Click	When you **click**, you press the mouse button and then quickly release it, similar to the way you press a key on the keyboard.
Double-click	When you **double-click**, you quickly press and release the mouse button twice.
Drag	When you **drag**, you point to an object, hold down the mouse button, and move the mouse to a new position. Then you release the mouse button.

TIP

If you do not see a moving, arrow-shaped pointer on the computer screen, try moving the mouse farther to the left, right, toward you, or away from you until you see the pointer. Then pick up the mouse so the rubber ball underneath it does not touch the mouse pad or desktop. Move the mouse back to the center of the mouse pad, and put it down. The position of the pointer on the computer screen does not change until the ball under the mouse once again touches a flat surface.

POINT AND CLICK TO MINIMIZE A WINDOW

Follow the steps below to practice using the mouse:

1. Move the mouse around on its mouse pad (or on your desk if you don't have a mouse pad), and watch the computer screen. Look for a moving, arrow-shaped pointer.
2. Move the mouse toward you, away from you, to the left, and to the right. Watch the corresponding movements of the pointer on the screen.

   Before you go on to the next section, you need to close any windows that are inside the Program Manager window.

3. Find the Title bar that reads "Program Manager."

   This is the one window that you are going to leave open.

   Right now, you may have different windows open inside the Program Manager window, or you might have no windows open, just icons. **Icons** are small pictures or symbols on the computer screen. They are used to represent many items on the computer screen, such as program groups, individual programs, and tools you use within programs. If you see only icons in your Program Manager window, skip ahead to step 5.

   If you do have other windows open inside your Program Manager window,

4. Click on the Minimize button for all windows except the Program Manager window.

   Your screen should look similar to Figure WIN-5, although there may be more icons visible, they may have different names, and they may be in different places on the screen.

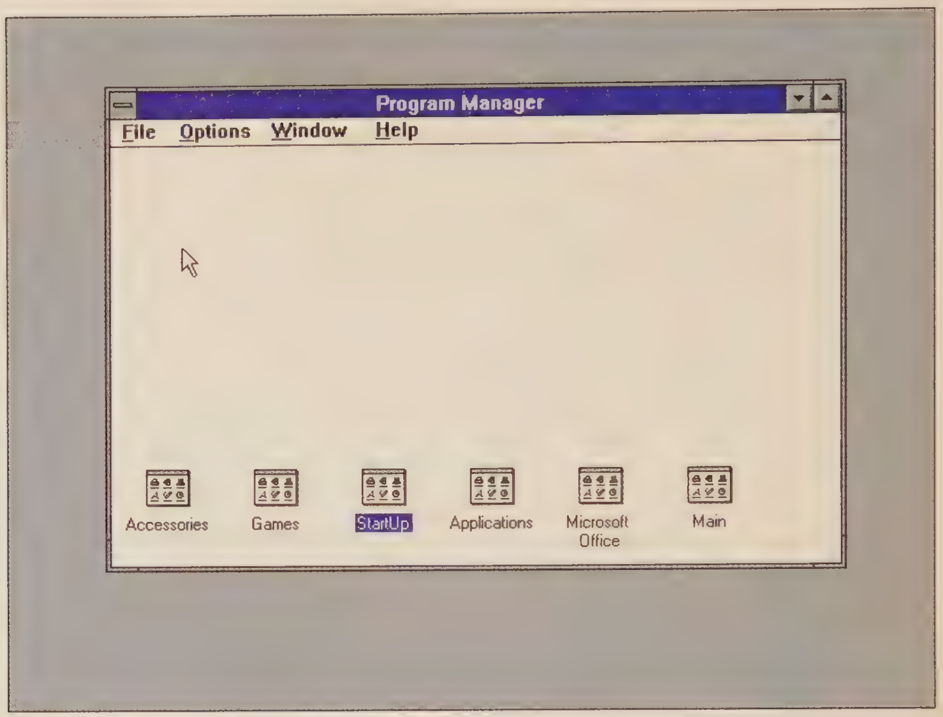


FIGURE WIN-5
All windows have been closed except the Program Manager.

Now you are ready to minimize the Program Manager window.

5. In the upper-right corner of the Program Manager window, next to the Title bar, click on the Minimize button.

   The Program Manager and everything in it is reduced to an icon.

   Right now, the Program Manager program is still running, although it has been reduced to an icon. If there are no remaining windows open on your screen, skip to the next section. If there are any windows still open on your screen, they represent other programs (in addition to Program Manager, which is always running). To minimize these windows,

6. Click on the Minimize buttons of all remaining windows.

   Your screen should now be blank, except for one or more icons in the bottom left corner of the screen.

THE PROGRAM MANAGER AND PROGRAM GROUPS

You are currently looking at the **desktop**, the background layer behind all windows. Whenever you start a program, it appears in a window on the desktop. However, any program window can be minimized, so it appears on the desktop as an icon.

As you may have already realized, there is one program that is always running when you are in Windows: the Program Manager. The **Program Manager** is a program itself. It is an electronic organizer that shows you, at a glance, the other programs that are available.

RESTORE THE PROGRAM MANAGER

To restore the Program Manager window from the desktop,

1. Double-click on the Program Manager icon.

UNDERSTANDING PROGRAM GROUPS

Within the Program Manager, programs are organized into **program groups**, which are simply windows that contain sets of related software. Program group windows can also be minimized, in which case they appear as icons in the Program Manager window.

OPEN AND CLOSE PROGRAM GROUPS

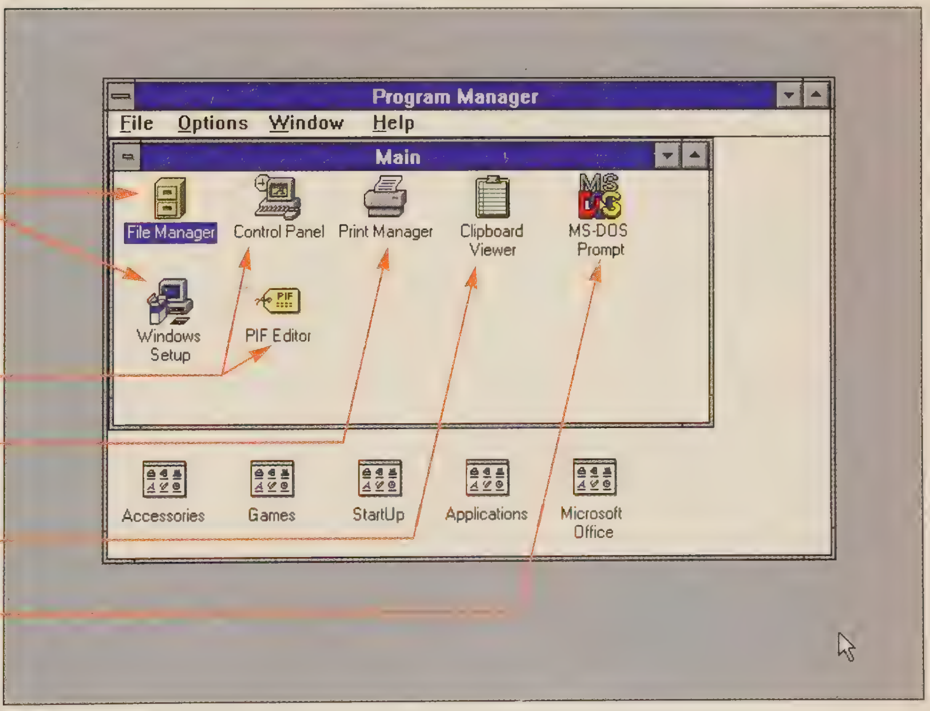
Right now, all of your program groups are displayed as icons. To open the Main program group,

1. Point to the Main program group icon and double-click.

   The Main window opens on the screen, as shown in Figure WIN-6. (Your Main program group may be slightly different.)

FIGURE WIN-6

The Main program group.



Each icon in the Main program group represents a program.

The Main program group contains several programs, each of which is represented by an icon. The Main group contains some important programs that are built into the Windows environment. You will learn about one of them, the File Manager, later in this lesson.

There are several ways to close a program group window. You have already seen one of them—clicking on the Minimize button. Here's another way to do it:

2. Double-click on the Control-menu box of the Main window (the Control-menu box is the square with the dash in it in the upper-left corner of the window).

   The Main window closes.

   To find out what other programs are available,

3. Open and close the other program groups in the Program Manager window, noting the names of the icons that are stored in each group.

USING WINDOWS APPLICATIONS

Applications are programs you use to do your work, such as word processing programs or desktop publishing programs. Windows-based applications use the Windows environment to provide their basic structure. (Programs that are not based on Windows do not use Windows to provide their structure; however, you can start either type of application from within Windows.)

For example, suppose that you want to use Windows Write, the word processor that comes with Windows, to write a letter. To begin using the program, you need to start—or launch—it.

START THE WINDOWS WRITE PROGRAM

To start Windows Write, you must first open the program group that contains the Windows Write icon, then double-click on the Write icon.

1. Double-click the Accessories icon in the Program Manager window.
2. Find the Write icon and double-click on it. (If you cannot find the icon, try maximizing the Accessories window).

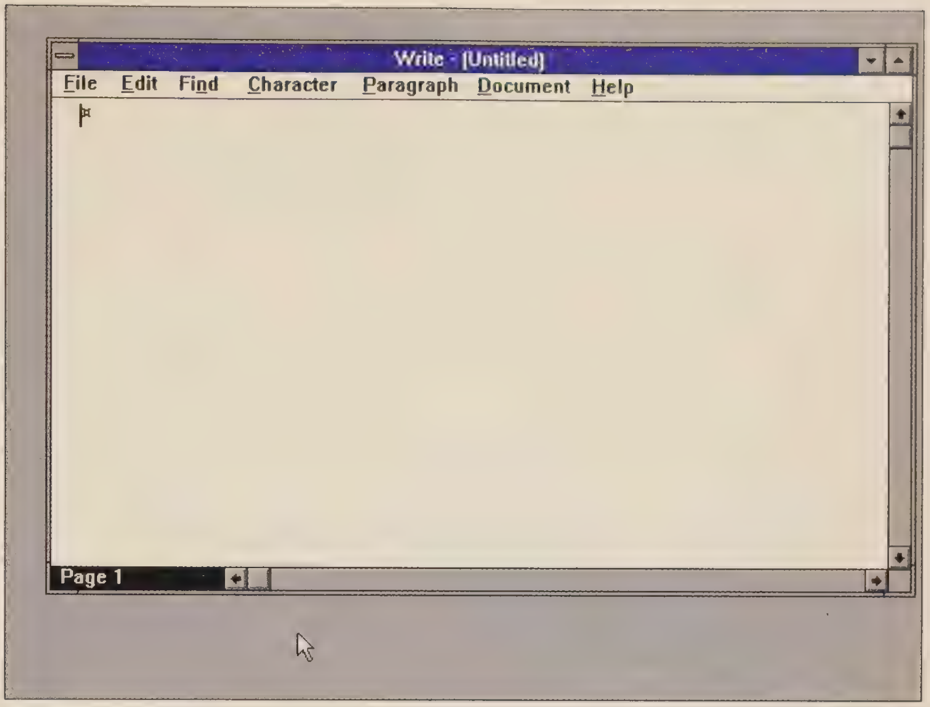
   The Windows Write program is loaded into memory. Your screen should look similar to Figure WIN-7.

   Notice that the Write program is displayed in a window that looks very similar to the other windows you have seen.

TIP

Normally, when you are working with an application, it's best to maximize its window, so you won't be distracted by any other programs, such as the Program Manager, that may be running in Windows.

FIGURE WIN-7
The Write window.



3. Click on the Maximize button to make the Write window take up the entire screen.

The Write window is now ready for you to type your letter. You type the letter in the window's workspace. When you are done, you save the letter as a **document**, a data file that the application lets you create and modify. It's important to realize that the document and the application are separate. When you are working with an application, you load and modify documents, but you don't actually make any changes to the application itself. The application is a tool for working on documents.

SWITCH BETWEEN WINDOWS PROGRAMS

Right now you have two programs running: Windows Write and the Program Manager. In Windows you can have many programs running at once, but only one window can be active at a time. The Write window is currently active. One way to tell is that the Write window is in front of the Program Manager window.

If you want to switch between programs that are running in Windows, you need to activate the window for the program you want to use. You can do this in many ways, three of which are discussed below. The first method uses the keyboard to switch between the two programs.

1. Hold down [Alt] on your keyboard and press [Tab].

The Program Manager's name appears in front of the Write window. When you release [Alt]*, the Program Manager window appears.*

NOTE

Using two keyboard keys at once is called a keyboard combination. This book uses the notation Alt+Tab to mean "hold down Alt and press Tab."

TIP

If there are more than two programs running, you can switch to any one of them using the Alt+Tab method: Just hold down Alt and press Tab repeatedly until the name of the program that you want to activate appears on the screen, and then release Alt.

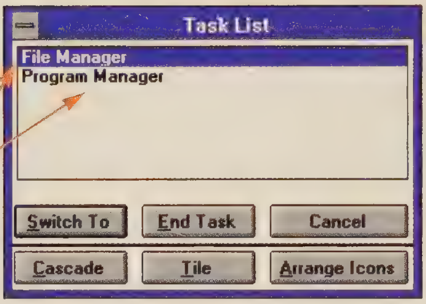
WARNING

If you receive warnings from Windows when you try to run multiple applications at the same time, consult your instructor or lab assistant. Your computer system may not have enough memory to run multiple applications.

Another way to switch between programs is to press Ctrl+Esc to open the Task List (shown in Figure WIN-8).

FIGURE WIN-8

The Task List.



These programs are currently running.

Here you simply click on the program you want, then click on the Switch To button (or, as a shortcut, double-click on the program you want).

Notice that part of the Write window is still visible. But the Program Manager window is active. Another way to tell which program window is active is to see which Title bar is displayed in color (if you have a color monitor). If you can see it, notice that the Write Title bar (which is inactive) is displayed in black and white, while the Program Manager Title bar is in color.

A third way to switch between programs is simply to click on the window that you want to make active (assuming that part of the window is visible).

2. Click outside the Program Manager window on the Write window.

   The Write window once again takes over the screen, hiding the Program Manager window.

QUIT THE APPLICATION

When you want to quit Write, you can choose among several ways to exit the application. You already know the fastest way:

1. Double-click on the Control-menu box in the upper-left corner of the Write window.

The Write window closes and the Program Manager reappears.

NOTE *Sometimes when you quit an application, a box will appear asking if you want to save any changes you have made to the document. You will learn about saving documents once you start the application tutorials in this book. If you see this message on your screen right now, click on the No button.*

2. Click on the Minimize button in the Accessories window.

TYPES OF WINDOWS

Although you may not have realized it, you have now worked with two kinds of windows. The Write window and the Program Manager window are called application windows. An **application window** represents an active program. One way to recognize an application window is to see if the window has a Menu bar. The Program Manager is an application, so its window has a Menu bar.

Application windows can contain subordinate windows, which can contain documents, programs, groups of programs, files, or tools. For example, in the Program Manager, the subordinate windows are called program group windows, and they contain program icons. Many applications, such as Word and Excel, are capable of loading more than one document at a time. When you load more than one document, each is displayed in a subordinate window, which is sometimes called a **document window**. Windows Write can only load one document at a time, so there were no subordinate windows in the Write window.

OPEN TWO PROGRAM GROUP WINDOWS

Subordinate windows—whether they are program group windows or document windows—do not contain menus. Also, only one subordinate window can be active at a time. To demonstrate these facts, perform the following steps to open two program group windows.

1. Click on the Maximize button in the Program Manager window to give your program groups as much room as possible.
2. Double-click on the Main icon to open the Main program group.
3. Double-click on the Accessories icon to open the Accessories program group.

TIP *If you cannot see the Accessories icon because the Main program group is in the way, you can point at the Main Title bar, hold down the mouse button, and drag the Main window out of the way.*

Your screen should now look similar to Figure WIN-9.

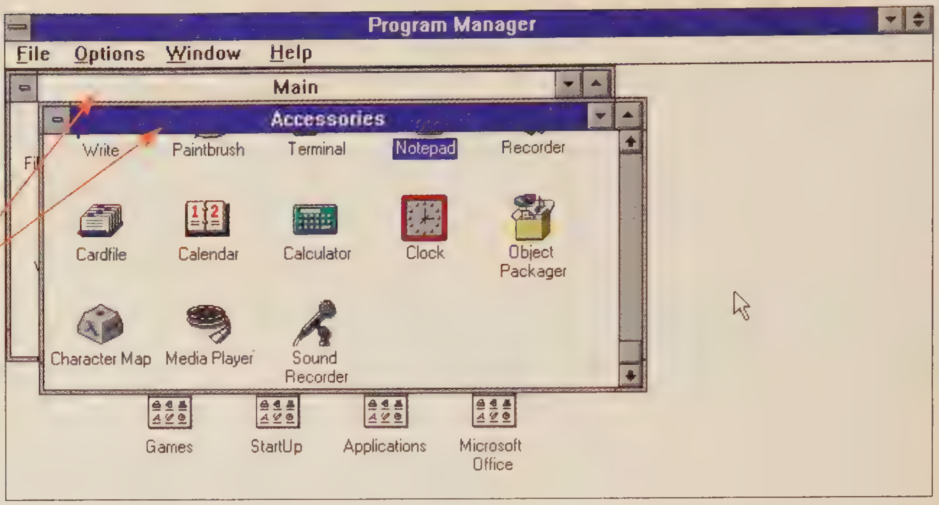


FIGURE WIN-9
Two program group windows.

There are now two program groups open in the Program Manager.

Notice that neither program group window has a Menu bar, and that the Accessories Title bar is in color, while the Main Title bar is not. (The Program Manager Title bar is also in color, because it is the active application window.)

MOVING AND RESIZING WINDOWS

To use Microsoft Windows effectively, you need to do more than open windows and switch between them. When there are multiple windows open, you also need to be able to move and resize them so you can see the contents of more than one window at once.

USE THE RESTORE BUTTON

You already know how to minimize and maximize windows. Once you have maximized a window, though, the Maximize button disappears and a different button is displayed in the upper-right corner of the screen: the Restore button. The **Restore button** contains a double arrow. Clicking on it returns the window to its original size and location. You can see the Restore button in the upper-right corner of your Program Manager window.

To restore the Program Manager window to its original size:

1. Click on the Restore button in the upper-right corner of your screen.

   The Program Manager window is restored to the size it was before you maximized it. The Restore button has been replaced with the Maximize button.

2. Click on the Maximize button to maximize the Program Manager window again.

MOVE A WINDOW

You can move any nonmaximized window by dragging its Title bar. For example, to move the Accessories window to the lower-right corner of the screen, and then to the middle of the screen,

1. Point to the Title bar of the Accessories window.
2. Hold down the mouse button and drag the window until you see its outline in the lower-right corner of the screen, and then release the mouse button.
3. Drag the Title bar so the Accessories window is in the middle of the Program Manager window.

DRAG THE WINDOW BORDERS AND CORNERS

In addition to changing the size of windows by maximizing and minimizing them, you can control their size exactly by dragging their borders.

To change the size of a window with the mouse:

1. Point to the right border of the Accessories window.

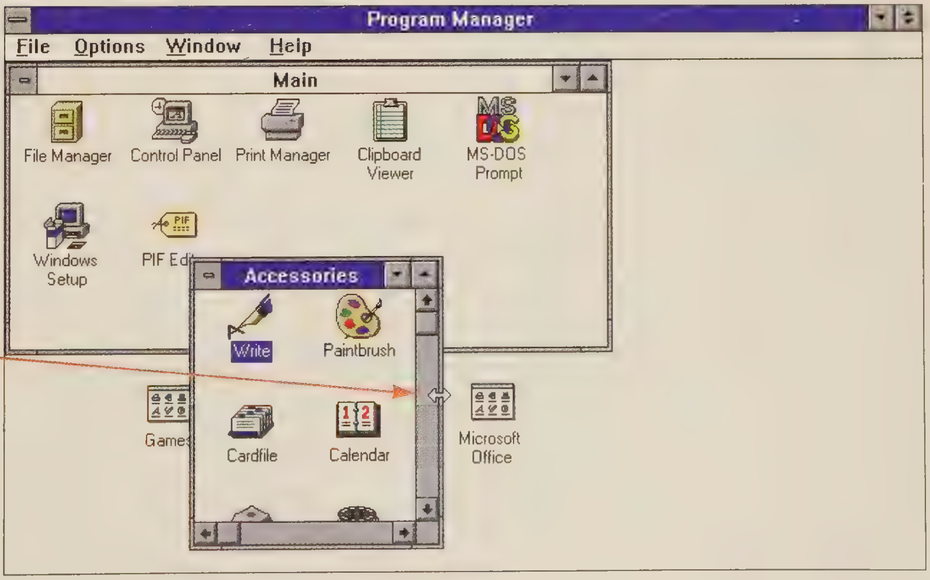
   The pointer changes to a double-headed arrow.

2. With the pointer shaped like a double-headed arrow, hold down the mouse button and drag the window border toward the center of the window, until the window is about 2 inches wide. Release the mouse button.

   Your screen should look like Figure WIN-10.

FIGURE WIN-10

The resized Accessories window.



Double-headed arrow pointer, used for resizing windows.

You can move two sides of the window at once by dragging the corner of the window.

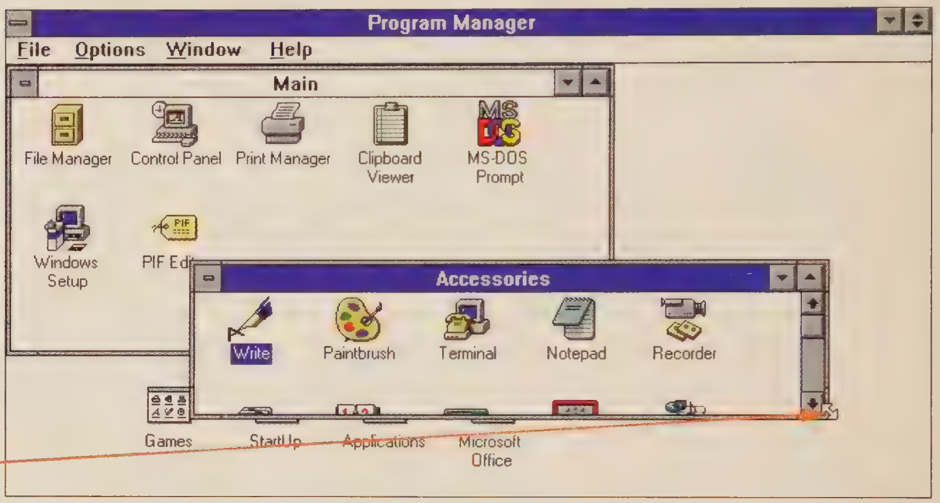
3. Point to the bottom-right corner of the Accessories window.

   The pointer changes to a double-headed arrow.

4. With the pointer shaped like a double-headed arrow, hold down the mouse button and drag the corner until the window is about 6 inches wide and 1 inch tall, and then release the mouse button.

   Your screen should look similar to Figure WIN-11.

FIGURE WIN-11
The Accessories window, resized again.



The double-headed arrow pointer is slanted when you are resizing using a window corner.

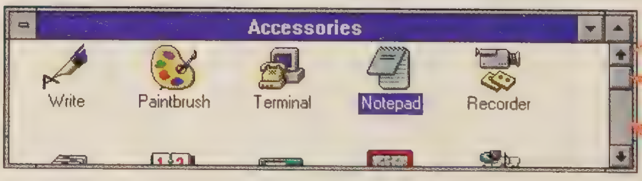
WORKING WITHIN A WINDOW

In addition to being able to control the windows themselves, you also need to be able to control the items within each window.

USE THE SCROLL BARS

With the window reduced from its original size, you can no longer see all the icons in the window. To allow you to view the hidden areas of the window, a scroll bar appears along the right edge (see Figure WIN-12).

FIGURE WIN-12
Parts of the scroll bar.



Scroll arrow

Scroll box

Scroll bar

There are four important parts of the scroll bar: the scroll bar itself, the scroll box, and the two scroll arrows. The **scroll bar** represents the total area of the workspace, both visible and hidden. The **scroll box** represents your approximate position in the workspace. So, for example, if the scroll box is at the top of the vertical scroll bar, you are viewing the top of the workspace.

There are four ways to move through the workspace using the scroll bar:

- To move a short distance up or down, click on the up or down arrow.
- To scroll continuously, point to one of the **scroll arrows**, and hold down the mouse button.
- To move one window-length at a time, click the scroll bar above or below the scroll box.
- To scroll to a particular position in the workspace, drag the scroll box to that position.

Follow these steps to practice using the scroll bars:

1. Click once on the down scroll arrow to scroll down slightly.
2. Click and hold on the down arrow until the bottom of the Accessories window is visible.
3. Click in the scroll bar above the scroll box to move up by one window-length.
4. Drag the scroll box back up to the top of the scroll bar.

MOVE ICONS IN A WINDOW

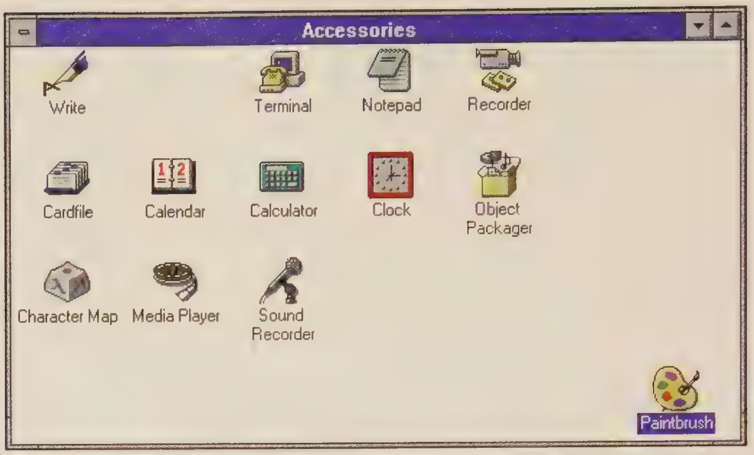
Just as you can drag a group window around inside the Program Manager window, you can drag icons around inside a group window. To see how this works, you first need to enlarge the Accessories window:

1. Drag the lower-right window corner of the Accessories window down to the lower-right corner of the Program Manager window (the pointer must appear as a two-headed arrow before you can begin dragging the border).

   Now you have room to move an icon within the Accessories window.

2. Drag the Paintbrush icon to the bottom-right corner of the window, as shown in Figure WIN-13.

FIGURE WIN-13
The Paintbrush icon has been dragged to a new location.



USING MENUS

In Windows, many program features, options, and commands are kept in lists, called **menus**, that you access from the Menu bar. Windows has five menus, each containing lists of options.

File	Contains file-management options, such as Move, Copy, and Delete. It also contains the Exit Windows option for exiting the program.
Options	Contains options for arranging and sizing icons.
Window	Contains options for arranging windows and icons. It also lists the available windows and allows access to them.
Help	Contains options for accessing the Windows Help features.
Control	This menu appears when you click the Control-menu icon located to the left of the Title bar. It contains options for changing the size and location of windows. All applications that work with Windows have a similar Control menu.

When a menu is closed, you see only its name in the Menu bar. When a menu is open, you can view and choose menu options.

You open a menu by clicking on its name. You choose an option by clicking on it. You can also choose menu options by pointing to a menu name, holding down the mouse button, and dragging down to the option you want. If you open a menu and decide that you do not want to select any of the options, simply click anywhere outside the menu.

SELECT A MENU OPTION

To give you a little practice with menus, follow these steps to rearrange the icons in the Accessories window:

1. Click on the Window menu in the Program Manager Menu bar.

   The Window menu appears.

2. Click on the Arrange Icons option.

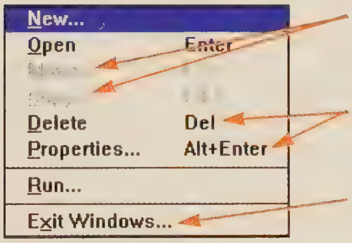
   The Paintbrush icon is brought back in line with the others in the Accessories window.

SPECIAL MENU OPTION FEATURES

Take a look at the menu shown in Figure WIN-14.

- Some menu options are only available under certain circumstances. When they are not available, they appear gray or dimmed in the menu, and you are not able to choose them.
- Some menu options are followed by three dots. These dots, called **ellipses**, let you know that a dialog box appears if you choose that option. (Dialog boxes are discussed in the next section.)
- To the right of some menu options, you will notice keys (such as Alt+Enter). These are keyboard shortcuts that allow you to choose menu options by using the keyboard.
- Although there are no options like this in Figure WIN-14, a triangle at the right side of a menu command indicates that the command leads to a cascading menu, which lists additional options that are available.

FIGURE WIN-14
Standard menu features.



Dimmed options are not available

Keyboard shortcuts

Ellipses

DIALOG BOXES

A good portion of your interaction with Windows-based programs will involve the use of dialog boxes. A **dialog box** is the way that Windows asks you for the extra information it needs to complete a command.

OPEN THE PRINT DIALOG BOX IN WRITE

There are several types of controls used in dialog boxes. The Print dialog box in Windows Write contains the most common ones. To open it,

1. Double-click on the Write icon in the Accessories window to launch the Write program.

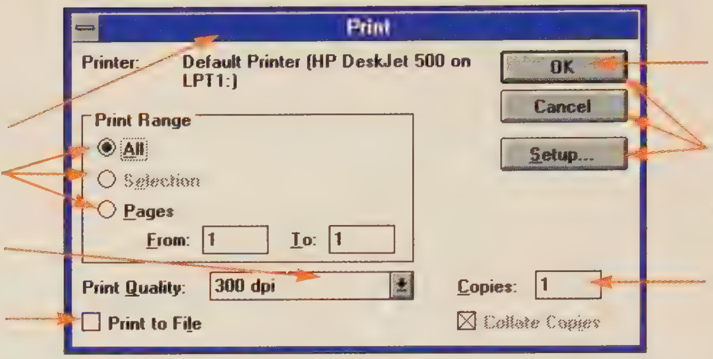
   Suppose that you had typed a letter and wanted to print it. To do so,

2. Select Print from the File menu (in other words, click on File in the Menu bar, and then click on the Print option).

   The Print dialog box appears, as shown in Figure WIN-15 (the dialog box on your screen may look slightly different, depending on the printer your computer is connected to). The most common dialog box features are labeled in the figure and described next.

FIGURE WIN-15

Standard dialog box features.



Printer: Default Printer (HP DeskJet 500 on LPT1:)

Print Range

● All

○ Selection

○ Pages

From: 1 To: 1

Print Quality: 300 dpi

Copies: 1

☐ Print to File

☒ Collate Copies

Title

Option buttons

Drop-down list box

Check box

Default button

Command buttons

Text box

- The title is the name of the dialog box.
- **Command buttons** are small rectangles. You click a command button to choose an option. A button with the heavy border around it, such as the OK button in the figure, is the **default button**. Pressing Enter does the same thing as clicking on the default button. Some command buttons contain a word followed by three dots. When you click this type of command button, another dialog box appears offering you additional choices. Another type of command button contains a double chevron (>>). Clicking this type of button causes another portion of the current dialog box to appear. Finally, some dialog boxes have file folder tabs along the top. Clicking on a tab displays a different section of the dialog box.
- **List boxes** contain a list of available choices. The Task List dialog box that you saw earlier in the chapter had a list box containing the programs that were currently running. You select the choice you want and click a button, or just double-click on the choice you want.
- An arrow in a square box to the right of the list box indicates a **drop-down list box**, which is like a menu with the currently selected option showing at the top of it. For example, the Print Quality drop-down list box in the figure is currently displaying 300 dpi. Clicking the box with the down arrow causes a list of available choices to appear. Clicking it again causes the list to disappear.
- **Text boxes** are rectangles in which you can type information. For example, you could print two copies of the current document by double-clicking in the Copies text box and typing "2".

- **Option buttons** (or **radio buttons**) are small circles that indicate a list of options. In a set of option buttons, you can choose only one at a time. To change your choice, click a different button. The chosen option button contains a black dot.
- **Check boxes** are small boxes offering you the chance to switch an option off or on. An *X* in the box means the option is on; an empty box indicates it is off. In the figure, the Print To File option is currently off. To change the response in a check box, click the box.

Most dialog boxes use *OK* to represent a yes decision and *Cancel* to represent a no decision. In dialog boxes containing several options, clicking OK saves the options you have chosen, while clicking Cancel closes the dialog box without saving your choices. For example, you don't actually want to print the current document because you haven't typed anything in it, so

3. Click the Cancel command button to close the dialog box.

To exit the Write application using a method you haven't tried before,

4. Click on the File menu in the Write window.
5. Click on the Exit option.

CHOOSING A PRINTER

Before you print from a Windows-based program, you should make sure that Windows and the application program you are running are set to print to the same printer. Otherwise, you may run into trouble when you try to print.

If your computer is currently connected to just one printer, someone has probably set up Windows for that printer already. If you are connected to more than one printer, you may occasionally need to switch between them. In either case, it is good to know the steps required to select a printer.

SELECT THE ACTIVE PRINTER

To select a printer, you need to use the Control Panel. The **Control Panel** contains controls for adjusting the screen and mouse, for choosing the printer, and for adjusting several other basic Windows settings.

To access the Control Panel:

1. Click on the Minimize button in the Accessories window to reduce it to an icon.

You should now be able to see the Main window.

2. Double-click the Control Panel icon.

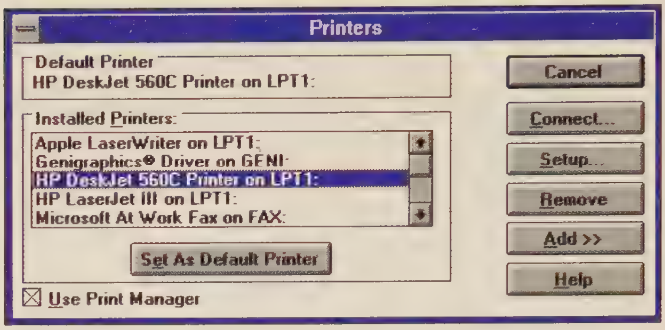
The Control Panel opens.

3. Double-click the Printers icon.

   The Printers dialog box opens, as shown in Figure WIN-16. In the box labeled "Installed Printers" is a list of printers that have been installed on your computer. The printer currently chosen is highlighted.

FIGURE WIN-16

The Printers dialog box.



Default Printer
HP DeskJet 560C Printer on LPT1:

Installed Printers:
Apple LaserWriter on LPT1:
Genigraphics® Driver on GENI:
HP DeskJet 560C Printer on LPT1:
HP LaserJet III on LPT1:
Microsoft At Work Fax on FAX:

☒ Use Print Manager

If you need to choose a different printer, you can click the name of the printer. Click the Set As Default Printer button, and then click the Close button.

If your printer does not appear in the Installed Printers list, it has not been installed on your hard disk. To install the printer, you need the Windows program disks or the disks supplied by the printer manufacturer. To install, you click the Add button and choose the printer from the list that appears. The Program Manager will copy the **printer driver**, the software required to run your printer, from one of the Windows program disks to your hard disk.

4. You should not make any changes to this dialog box right now, so click on the Cancel button.

ASKING FOR HELP

If you get in trouble while you are using Windows, you can probably find the solution to your problem right on the computer screen. The Windows Help feature gives you immediate access to on-screen information about the program and how it works. This feature is often the fastest way to get assistance when you have a problem. There are several ways to find the answers you are looking for.

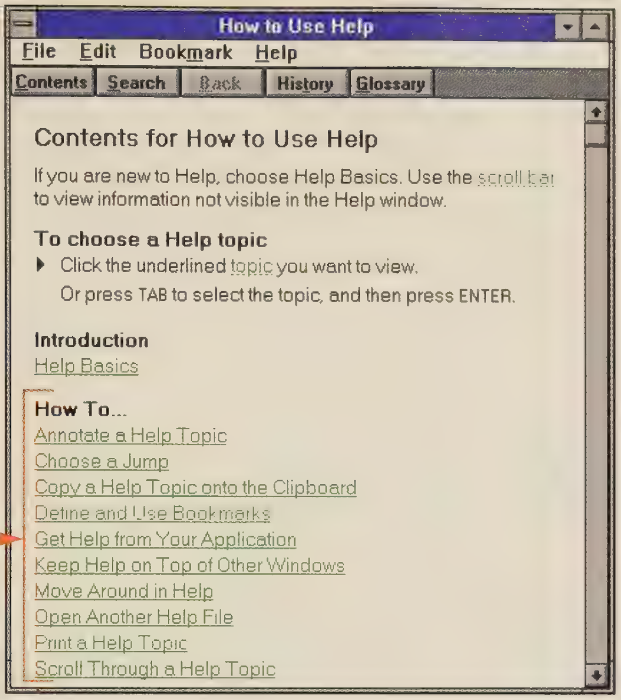
LEARNING TO USE THE HELP SYSTEM

Learning to use the Help system in Windows is an important skill, but explaining the system would require quite a few pages. The best way to learn about it is to use the How To Use Help feature by selecting that option from the Help menu. When you do, Figure WIN-17 appears.

As shown in the figure, you can begin by clicking on the words "Help Basics." There, you'll learn about **jumps**, the underlined words that you click on to move from one subject to another. After you have read the Help

FIGURE WIN-17

The How To Use Help screen.



Contents for How to Use Help

If you are new to Help, choose Help Basics. Use the scroll bar to view information not visible in the Help window.

To choose a Help topic

▶ Click the underlined topic you want to view.

Or press TAB to select the topic, and then press ENTER.

Introduction

Help Basics

How To...

Annotate a Help Topic
Choose a Jump
Copy a Help Topic onto the Clipboard
Define and Use Bookmarks
Get Help from Your Application
Keep Help on Top of Other Windows
Move Around in Help
Open Another Help File
Print a Help Topic
Scroll Through a Help Topic

Each underlined topic is a jump.

Basics screen, you can click on the Contents button to return to the screen shown in the previous figure. Next, you should click on the words "Move Around in Help" and read through each of the jumps associated with that screen.

CONTEXT-SENSITIVE HELP

There is one important aspect of the Help system that you should know about right away. Windows Help is referred to as context-sensitive help because it can automatically give you information that applies to your situation.

OBTAIN CONTEXT-SENSITIVE HELP

For example, suppose you want to change the colors that are displayed on your screen (assuming you have a color monitor). You should still have the Control Panel visible on your screen.

1. Double-click on the Color icon.

   The Color dialog box appears. To get immediate help on how to use it,

2. Press F1 or click on the Help button (F1 is a keyboard shortcut for accessing the Help system at any time).

   The Control Panel Help screen appears.

3. Read and explore this Help screen to find out how to control the colors on your screen.

   When you are done,

4. Double-click on the Control-menu box in the Help screen.
5. Click on the Cancel button to close the dialog box.
6. Double-click on the Control-menu box in the Control Panel window to close it.
7. Click on the Restore button in the Program Manager window to restore it to its normal size.

USING THE FILE MANAGER

In Windows, the Program Manager is your main tool for organizing and launching programs. However, all those programs are stored on your hard disk as files. And the documents that you create with your applications are also stored as files. The **File Manager** is the Windows program you use to organize all the files that are stored on your hard disk and floppy disks.

Here are a few of the things you can do using the File Manager:

- Format floppy disks
- Create directories
- Move files
- Copy files
- Rename files

In the sections that follow, you'll learn how to do the first three of these operations. To complete these sections, you'll need the Master Data Disk that came with this book.

START FILE MANAGER

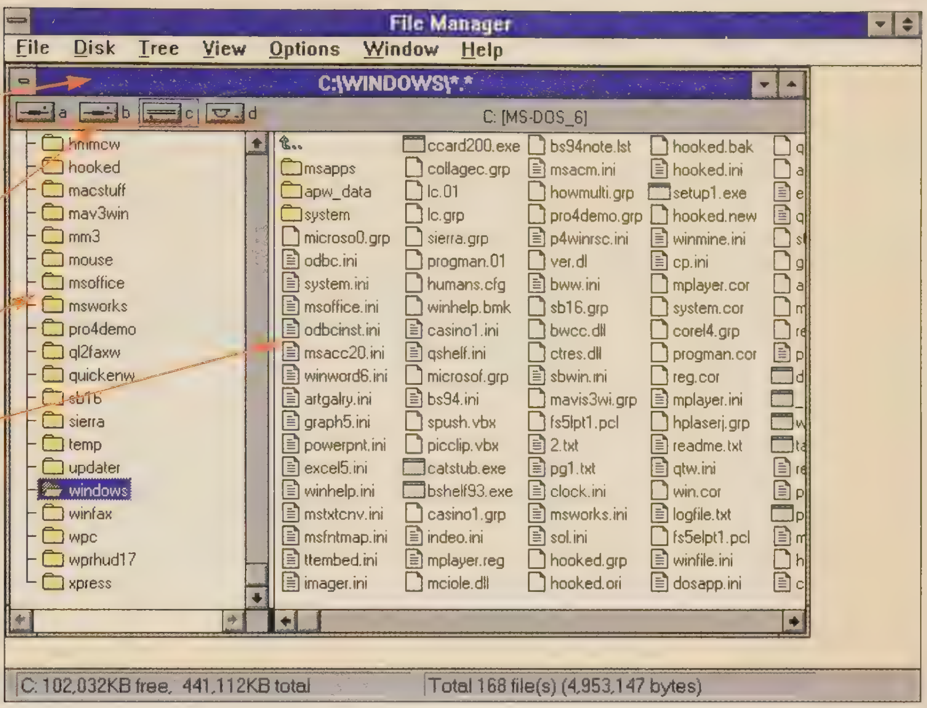
The Main program group should still be open in your Program Manager window. To start the File Manager,

1. Double-click on the File Manager icon.

   The File Manager appears, maximized, on your screen, as shown in Figure WIN-18.

FIGURE WIN-18

The File Manager.



C: 102,032KB free, 441,112KB total

Total 168 file(s) (4,953,147 bytes)

Directory window

Drive icons

Directory tree

Files list

THE DRIVE WINDOW

The File Manager window is an application window, similar to the ones you have seen for the Program Manager and Windows Write. Rather than program group windows or document windows, however, the subordinate windows in the File Manager are **directory windows**. Each shows the contents of a single directory. The directory window that is displayed on your screen right now probably shows the contents of the Windows directory or your computer's hard disk.

As shown in the previous figure, there are three important parts of the directory window: the drive icons, the directory tree, and the files list.

- The drive icons show the drives that are currently available to your computer. The drive icon for the currently active disk has a box around it.
- The directory tree shows the directory structure on the active disk. Directories are represented with directory icons (which look like file folders). The active directory is either highlighted or has a box around it.
- The files list shows the files and directories in the active directory. If a file or directory is selected in the files list, it is highlighted.

CHANGE THE ACTIVE DISK

Suppose you want to create a new directory on your Master Data Disk where you will temporarily store a file. To create the directory, you first need to make your Master Data Disk active.

1. Put your Master Data Disk in the floppy drive.

NOTE

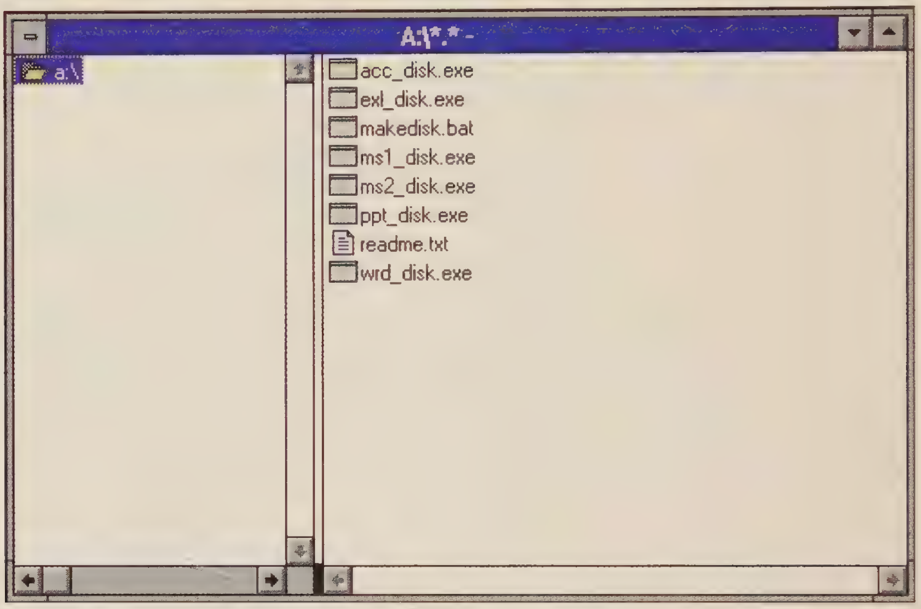
In these steps, the drive is referred to as drive A. If your computer has two floppy drives, and your 3½" drive is drive B, substitute B wherever these instructions say A.

2. Click on the drive icon labeled "a."

Your directory window should look like Figure WIN-19.

FIGURE WIN-19

The A: drive.



A:\*.*

a:\

acc_disk.exe
exl_disk.exe
makedisk.bat
ms1_disk.exe
ms2_disk.exe
ppt_disk.exe
readme.txt
wrd_disk.exe

MANIPULATING DIRECTORIES AND FILES

One of the key goals of file maintenance is the process of keeping your directory structure organized, so you can easily find and open files when you need them. This process includes creating directories and moving files between directories. Right now you want to copy a file to your Master Data Disk, but you don't want to put the file in the same directory as any other files.

CREATE A DIRECTORY

To create a special TEMP directory for the file,

1. Choose Create Directory from the File menu.

   The Create Directory dialog box appears, as shown in Figure WIN-20.

2. In the text box, type **Temp**
3. Click on the OK button.

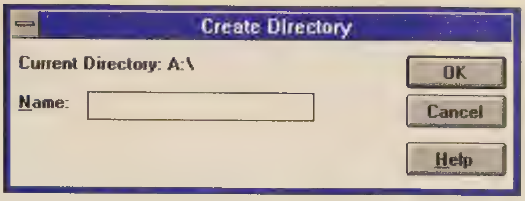


FIGURE WIN-20
The Create Directory dialog box.

The directory tree of the A: drive window now displays a directory icon labeled "temp." You can expand and collapse the directory tree to display and hide directories.

To collapse the directory tree,

4. Double-click on the a:\ directory icon at the top of the directory tree in the directory window.

   The directory tree disappears. To see the subdirectories of the Master Data Disk again,

5. Double-click again on the a:\ directory icon in the directory tree area of the directory window.

OPEN A SECOND DRIVE WINDOW

When you want to work with files on two different disks, it is often easiest to open two directory windows. To open a directory window for your hard disk (the C drive),

1. Double-click on the drive icon labeled "c."

   A second directory window opens. To give equal space to each directory window in the File Manager,

2. Choose Tile from the Window menu.

   The directory windows should be arranged with one above the other.

MOVE A FILE BETWEEN DISKS

On hard and floppy disks, files can be organized by setting up **directories**, which contain lists of files and other directories. Lists within other lists are often called **subdirectories**. The most common tasks you will do in the File Manager are copying and moving files within a directory structure or from one disk to another. Most of these actions can be completed simply by dragging file and directory icons from one place to another. Dragging a file to a different place on the same disk moves the file. Dragging a file to a different disk copies the file.

You do not need to have two drive windows open to move a file from one disk to the root directory of another disk. You can simply drag the file from the files list to the drive icon representing the file to which you want to copy the file. However, if you want to copy the file to a subdirectory of another disk, you need to open two drive windows. With both windows open, you can simply drag the file to the correct destination.

For example, suppose you want to copy an icon from the WINDOWS directory of your hard disk to the TEMP directory of your Student Data Disk.

1. In the directory tree of the C: drive window, click on the WINDOWS directory (you may need to scroll down through the directory tree to locate it).
2. In the file list area, click on the file named CALC.EXE (once again, you may need to scroll through the window to find it).

   The file name should be highlighted.

3. Drag the CALC.EXE file icon from the C: drive's directory to the TEMP directory in the directory tree area of the A: drive's directory (a box will appear around the TEMP directory when the pointer is in the right place).

   The Confirm Mouse Operation dialog box appears.

4. Click on the Yes button.

   The file is copied. To make sure that it is stored on the Master Data Disk,

5. In the directory tree area of the A: drive's directory, click on the TEMP directory.

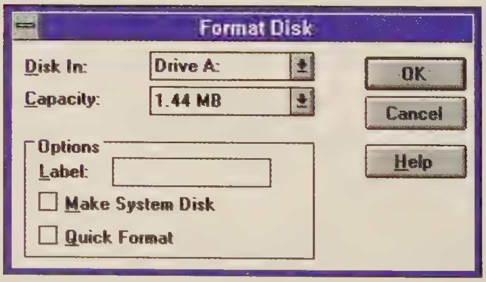
   The CALC.EXE file should appear in the files list box.

   You are finished working in the File Manager, so

6. Double-click on the Control-menu box in the upper-left corner of your screen to close the File Manager program.

FORMATTING A FLOPPY DISK

One other common task associated with file management is formatting a floppy disk. Before you can use a floppy disk (also called a diskette) the computer has to create a map on the disk's magnetic surface. This process is called **formatting**. In the File Manager, the process is simple: You select Format Disk from the Disk menu to display the Format Disk dialog box, shown here, in Figure WIN-21.



Disk In: Drive A:

Capacity: 1.44 MB

Label:

☐ Make System Disk

☐ Quick Format

FIGURE WIN-21

The Format Disk dialog box.

You use the drop-down list boxes to select the drive that contains the disk you want to format and the capacity of the disk, then click on OK. Windows will display a status box as it is formatting the disk.

EXITING WINDOWS

When you have finished working in Windows, you should exit the program and return to the DOS prompt. You should always exit Windows before you shut down your computer.

EXIT WINDOWS

To exit Windows:

1. In the Program Manager window, choose Exit from the File menu, or double-click on the Control-menu box.

   A box appears, prompting you to confirm that you would like to end the Windows session.

2. Click on OK or press Enter.

   You are returned to the DOS prompt.

TERMS TO REMEMBER

application A computer program used to do a particular kind of work, such as word processing.

application program Same as "application."

application window A window containing an active program.

check box A dialog box feature that can be activated by clicking on it. When the feature is active, an *X* appears in the box.

choose To activate a command on a menu or in a dialog box.

click To press and release the mouse button.

command button A dialog box feature that the user clicks to initiate an action.

Control-menu box The box in the upper-left corner of a window. Clicking the box displays the Control menu. Double-clicking the box closes the window.

Control Panel A Windows application with controls for adjusting the screen and mouse, and for choosing the printer.

default button A command button with a heavy border around it. Pressing Enter does the same thing as clicking on the default button.

desktop The background layer behind all windows.

dialog box A box that prompts the user for information that the program needs to complete a command.

directory An organizational structure on a disk that can contain files and other directories.

directory window A window in the File Manager that displays the contents of a directory or disk.

document A data file created using an application.

document window A window containing a document.

DOS (Disk Operating System) A computer operating system used on many IBM and IBM-compatible computers.

double-click To press and release the mouse button twice rapidly.

drag To point to an object and hold down the mouse button while moving the pointer.

drop-down list box A list box that contains additional choices that appear when an arrow on the right side of the box is clicked.

ellipses Three dots that follow a menu option. They signal that a dialog box will open when the option is selected.

File Manager The Windows program that you use to organize all the files stored on your hard disk and floppy disks.

formatting The process of mapping a disk's magnetic surface so information can be stored on it.

graphical user interface (GUI) A program that works with the operating system, allowing the user to interact directly with objects on screen by using a mouse.

icon A small picture or symbol used to represent such items as program groups, programs, or software tools.

jump Underlined word in the Help system that, when clicked, moves the user from one Help topic to another.

list box A dialog box feature containing a list of available options.

Maximize button The button in the upper-right corner of a window that contains an up arrow. Clicking on the button enlarges the window so that it fills the entire screen.

menu A list of software features, options, and commands.

Menu bar The area under the Title bar that displays menu names, such as File, Options, Window, and Help.

Minimize button The button in the upper-right corner of a window that contains a down arrow. Clicking the button reduces the window to an icon.

mouse pad A small mat on which a mouse may be rolled.

mouse A pointing device with one or more buttons that lets the user select commands, move objects, or get information by controlling an on-screen pointer.

multitasking An operating system feature that allows more than one application to be running at one time.

option button Small circle in a dialog box. These buttons are grouped, and only one can be selected at a time. Same as "radio button."

point To move the mouse until the tip of the pointer is on top of an on-screen object.

pointer A small symbol (often an arrow) that shows your on-screen location.

printer driver Software that controls how a computer and printer interact.

program group A set of related programs contained in a window.

Program Manager The Windows program that shows you, at a glance, the other programs that are available.

Restore button The box at the right of the Title bar containing a double arrow that returns the window to its original size. The Restore button appears only when the window is maximized.

scroll arrow The arrow at either end of the scroll bar that, when clicked, causes the workspace to move a short distance in the direction of the arrow.

scroll bars Bars appearing at the right and bottom edges when the contents of the window are not entirely visible. The bar represents the total area of the window, visible and hidden.

scroll box The box in a scroll bar that represents your approximate position in the workspace.

select To make an on-screen object active by clicking on it.

subdirectory A directory that exists within another directory.

text box A dialog box feature in which the user can type information.

Title bar The shaded bar at the top of a window that displays the name of the window.

window A rectangular area on the screen.

window borders The boundary lines that surround a window. They can be dragged to adjust the size of the window.

window corners The four corners of the window border. They can be dragged to adjust the size of the window.

Windows An operating environment for IBM and IBM-compatible computers that supplements the computer's operating system with a graphical user interface, or GUI.

workspace The area in the window that displays the information with which you are working.

APPLICATION PROJECTS

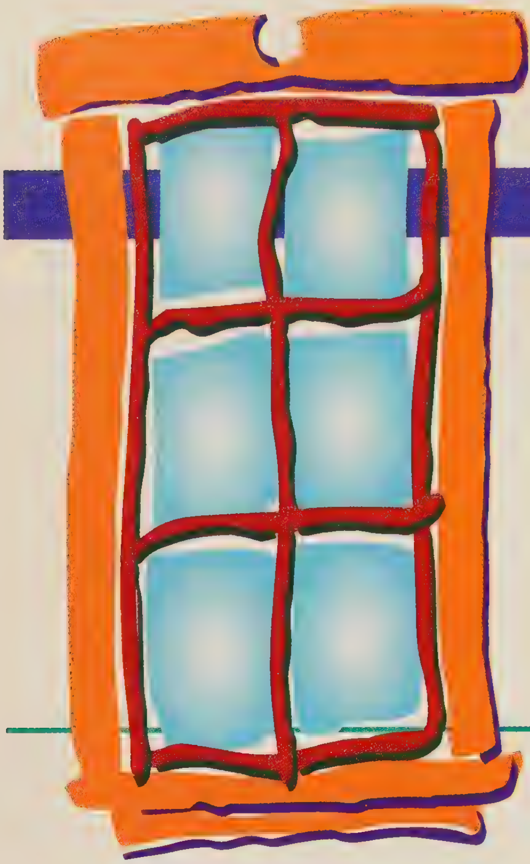
Perform the following actions to complete these projects:

1. Use the following project to practice using menus, windows, and icons. Click on "Options" on the Program Manager Menu bar. Check to make sure that the first command, Auto Arrange, is unchecked. If it is checked, click on it to turn this option off. Then select a program group window with several icons. Drag the icons to the center of the window until they are stacked on each other. Do not double-click on the icons, or you will open the program the icon represents. Open the Options menu and select the Auto Arrange command. On a separate piece of paper, describe what happened to the icons. Also describe why you think this command might be useful.
2. Open the Program Manager and resize the program group windows as small as you can make them without minimizing them. On a separate sheet of paper, describe how small the windows have become. What do they show? Then list the program groups now visible in Program Manager. After you have completed your list, restore the windows to their original size.
3. The next project requires that you have exactly three program group windows open. Click on the Cascade command. Then resize and drag the windows to tile the three windows inside the Program Manager window. The windows should be tiled horizontally, and each window should be the same size. On a separate piece of paper, tell what steps you took to complete the project, and tell which arrangement (tile or cascade) you prefer.
4. Open the File menu. Click on the New command. A dialog box appears. Leave this dialog box open as you answer the following questions on a separate sheet of paper. What is the name of the dialog box? This dialog box includes two types of dialog box features.
    a. What are these options called?
    b. What types of dialog box features are not present in this dialog box?
    c. When a radio button command has been selected, how does the dialog box tell you it has been selected?

    When you have answered these questions, cancel the dialog box.
5. Open the Help menu and select How To Use Help. Click on the underlined word "topic." Press any key when you are done reading the definition. Next, find and read the topic "Print a Help Topic." Then go back to the Contents for the How To Use Help window and print the "Help Buttons" topic, the last one in the list (you may have to scroll down to find it).

MS OFFICE LESSON 1

USING MICROSOFT OFFICE



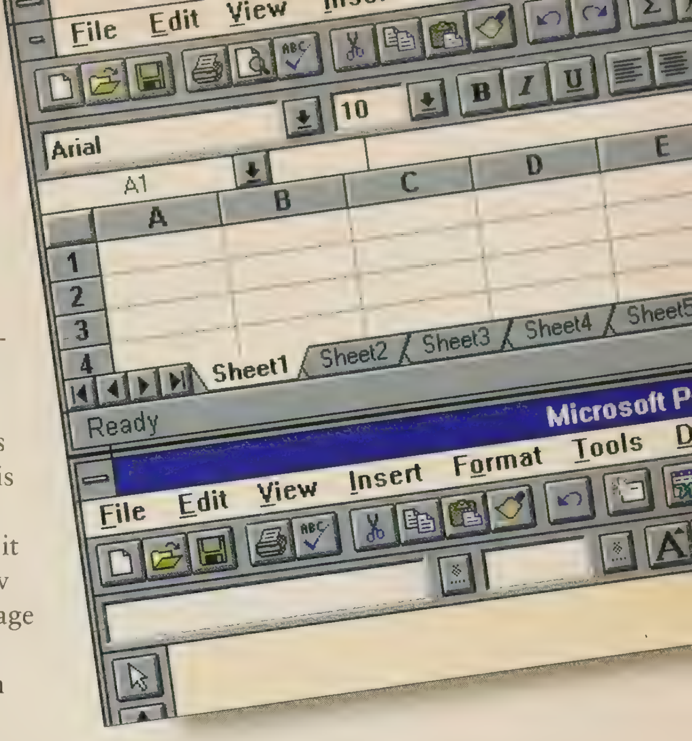
LESSON 1

USING MICROSOFT OFFICE

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Explain the value of each Office application.*
- *Explain the advantage of applications that look and act similarly.*
- *Use the Office Manager toolbar to open and close applications and to switch between them.*
- *Display two applications simultaneously in tiled windows.*
- *Customize the Office Manager toolbar.*



Microsoft Office is a collection (also called a suite) of four major applications. Microsoft has designed these applications so they work much the same way—they even share some of the same icons and functions. Because of this similarity, if you are familiar with one Office application, it takes less time to learn a new application. Another advantage of Office is that information stored in one application can in most cases be shared with another application. This not only means that less time is spent retyping information, but it also means that a document can be enhanced with features from another application. For example, a chart created in Excel (the spreadsheet program) can be included in a letter created in Word (the word processing program).

FOUR OFFICE APPLICATIONS

Microsoft Office Professional includes these applications: Word, Excel, Access, and PowerPoint.

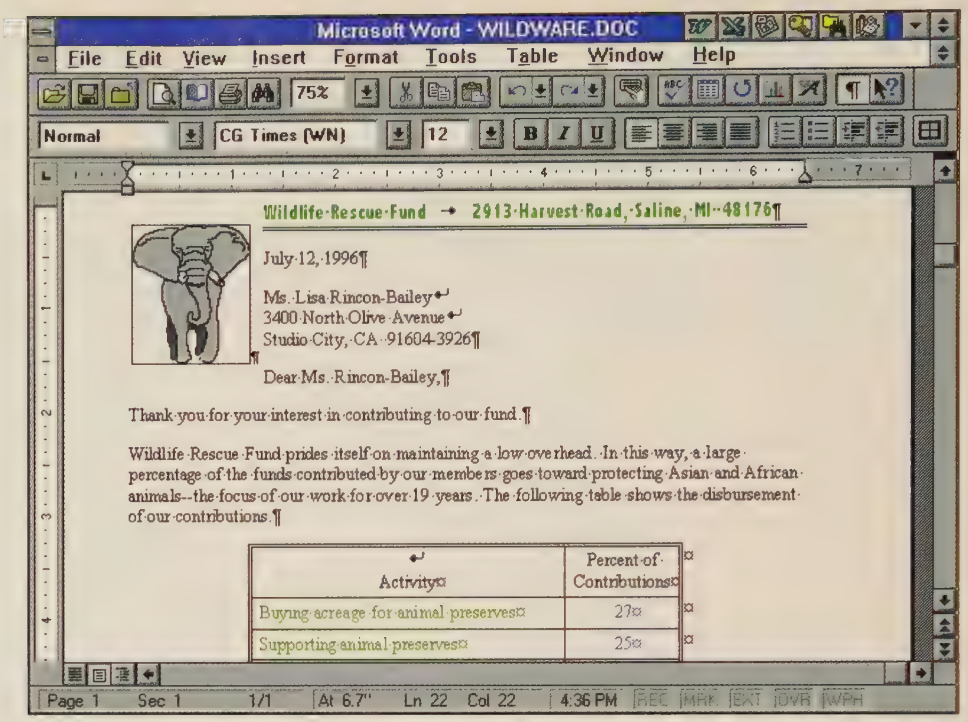
NOTE *The standard version of Microsoft Office does not include Access.*

MICROSOFT WORD

Word is a popular word processing program capable of creating a full range of business and personal correspondence. Word can also create more complex documents, such as invoices, flyers, and newsletters. Word extends the boundaries of word processing with its ability to add graphics, charts, colors, and tables. Other Word features include step-by-step mail merge, spell checking, simplified table creation, and Wizards—automated assistants that lead you through more complicated document-creation tasks. Figure 1-1 shows a letter as it appears in Microsoft Word.

FIGURE 1-1

A letter displayed in Microsoft Word.


Microsoft Word - WILDWARE.DOC
File Edit View Insert Format Tools Table Window Help
75%
Normal
CG Times (WN)
12
B I U
Page 1 Sec 1 1/1 At 6.7" Ln 22 Col 22 4:36 PM REC MRK EXT OVR WPH

Wildlife·Rescue·Fund → 2913·Harvest·Road,·Saline,·MI··48176¶

July·12,·1996¶

Ms.·Lisa·Rincon-Bailey↵
3400·North·Olive·Avenue↵
Studio·City,·CA··91604-3926¶

Dear·Ms.·Rincon-Bailey,¶

Thank·you·for·your·interest·in·contributing·to·our·fund.¶

Wildlife·Rescue·Fund·prides·itself·on·maintaining·a·low·overhead.·In·this·way,·a·large·percentage·of·the·funds·contributed·by·our·members·goes·toward·protecting·Asian·and·African·animals--the·focus·of·our·work·for·over·19·years.·The·following·table·shows·the·disbursement·of·our·contributions.¶

↵ Activity¤	Percent·of·Contributions¤
Buying·acreage·for·animal·preserves¤	27¤
Supporting·animal·preserves¤	25¤

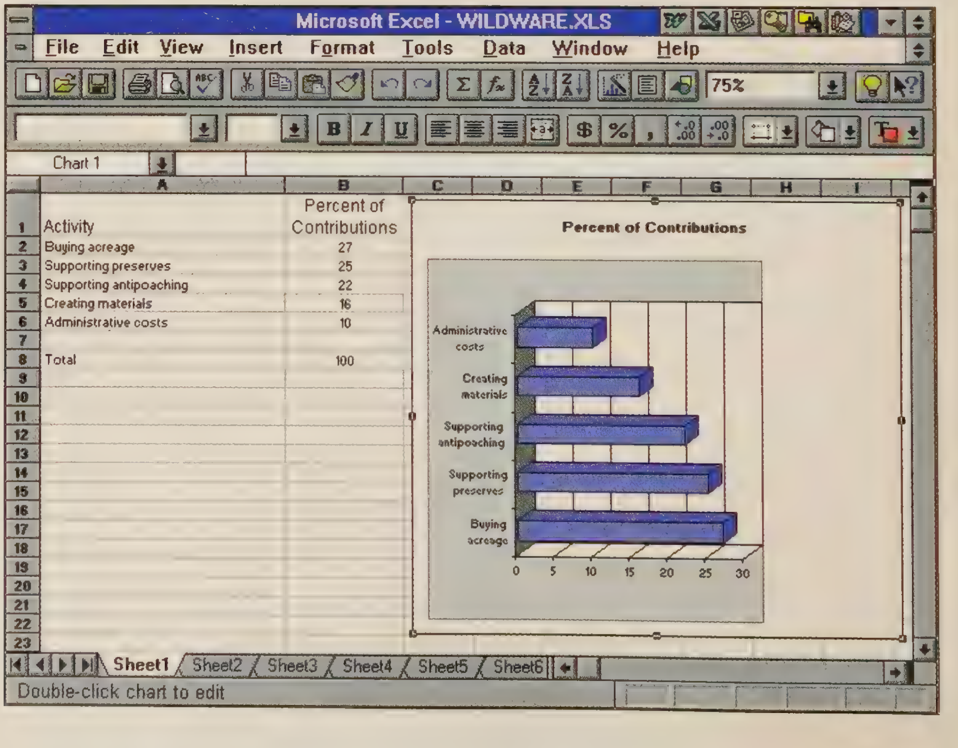
MICROSOFT EXCEL

Microsoft Excel

This full-featured spreadsheet application offers tools to enter, analyze, report, and chart data. Its ChartWizard makes creating charts a step-by-step process, while still giving you control over the look of the completed chart. Its AutoFill and repeat functions save keystrokes when entering information. Excel's formatting capabilities allow a range of fonts, styles, and colors, as well as borders and shading. Figure 1-2 shows a worksheet and chart as they appear in the Microsoft Excel window.

FIGURE 1-2

A table and chart displayed in Microsoft Excel.



	A	B
1	Activity	Percent of Contributions
2	Buying acreage	27
3	Supporting preserves	25
4	Supporting antipoaching	22
5	Creating materials	16
6	Administrative costs	10
7		
8	Total	100

Double-click chart to edit

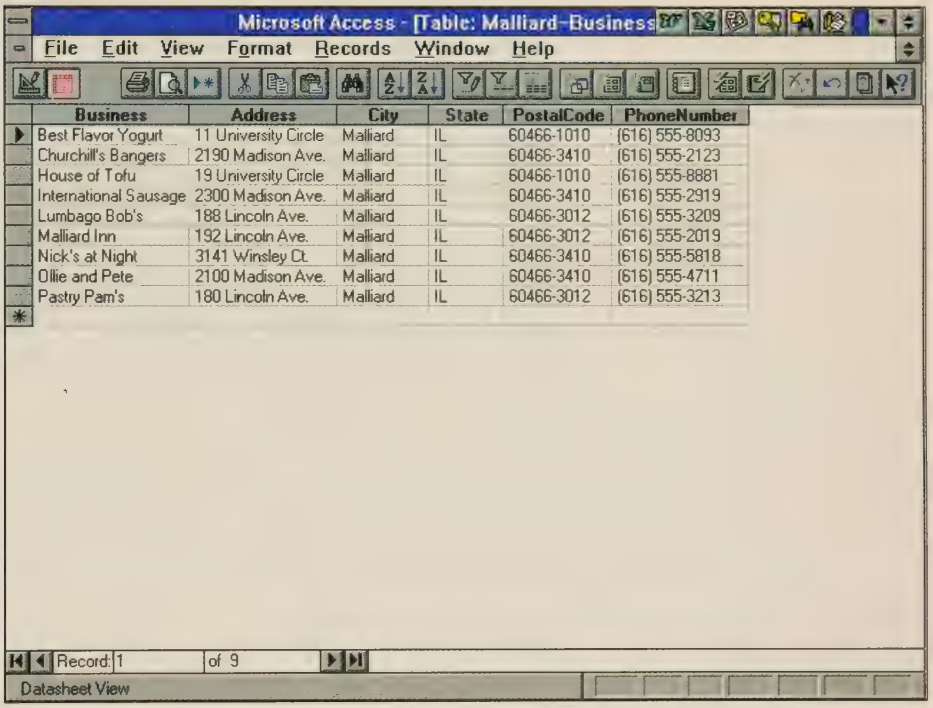
MICROSOFT ACCESS

Microsoft Access

If you have Microsoft Office Professional, your suite of applications includes a fourth major application: Microsoft Access. Microsoft Access is a powerful but understandable database application. Access incorporates a number of Wizards to simplify common database tasks—for example, the creation of mailing labels and form letters. Access makes it possible to maintain great amounts of information, retrieve that information quickly, and share it with the other Office applications.

FIGURE 1-3

A table displayed in Microsoft Access.



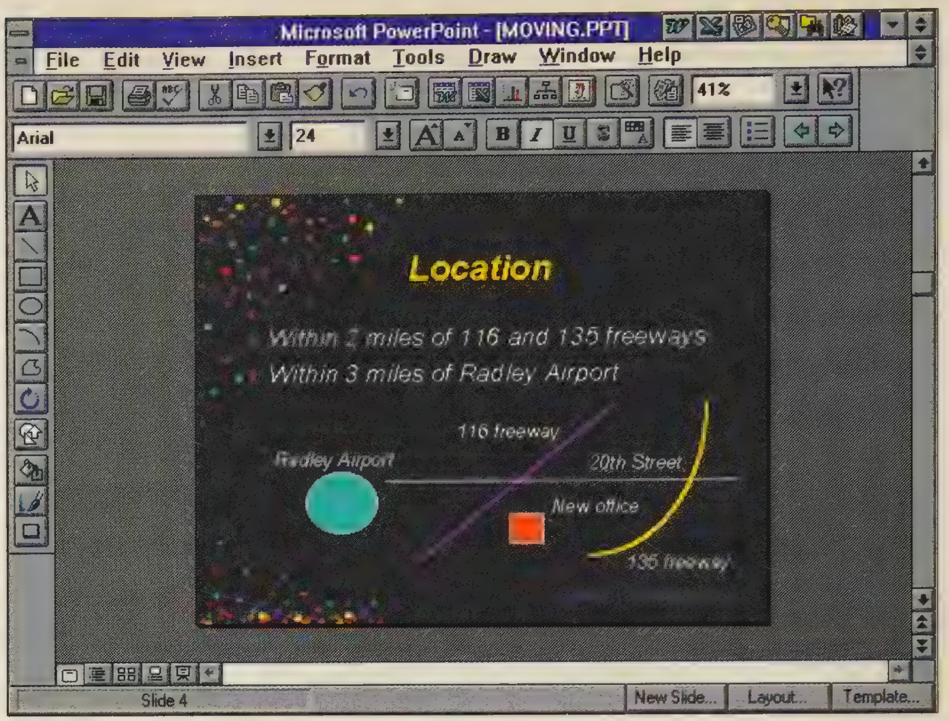
Business	Address	City	State	PostalCode	PhoneNumber
Best Flavor Yogurt	11 University Circle	Malliard	IL	60466-1010	(616) 555-8093
Churchill's Bangers	2190 Madison Ave.	Malliard	IL	60466-3410	(616) 555-2123
House of Tofu	19 University Circle	Malliard	IL	60466-1010	(616) 555-8881
International Sausage	2300 Madison Ave.	Malliard	IL	60466-3410	(616) 555-2919
Lumbago Bob's	188 Lincoln Ave.	Malliard	IL	60466-3012	(616) 555-3209
Malliard Inn	192 Lincoln Ave.	Malliard	IL	60466-3012	(616) 555-2019
Nick's at Night	3141 Winsley Ct.	Malliard	IL	60466-3410	(616) 555-5818
Ollie and Pete	2100 Madison Ave.	Malliard	IL	60466-3410	(616) 555-4711
Pastry Pam's	180 Lincoln Ave.	Malliard	IL	60466-3012	(616) 555-3213

Record: 1 of 9

MICROSOFT POWERPOINT

Microsoft PowerPoint

Used to create presentations or slides, PowerPoint combines ease-of-use with an array of graphics and text formatting options. This presentation program incorporates many of Word's text formatting abilities. PowerPoint can also use charts, clip art, organization charts, and bullets to create a brief slide show or an extensive presentation using cutting-edge computer graphics.



Location

Within 2 miles of 116 and 135 freeways

Within 3 miles of Radley Airport

FIGURE 1-4

A slide displayed in Microsoft PowerPoint.

SHARED PROGRAMS

In addition to these major applications, Microsoft Office also includes a number of smaller, shared programs. These include a thesaurus, Microsoft Graph, Microsoft Organization Chart, and Microsoft ClipArt Gallery.

MICROSOFT MAIL

Office also comes with a workstation license for Microsoft Mail, an electronic mail program. Electronic mail (or e-mail) is a way of sending documents from one user to another, making the sharing of information almost instantaneous. Microsoft Mail is not covered in these lessons.

APPLICATION VERSIONS CONTAINED IN OFFICE

These lessons were created using Microsoft Office Professional 4.3. That version of Office contains Microsoft Access 2, Microsoft Excel 5, Microsoft PowerPoint 4, Microsoft Word 6, and the workstation license for Microsoft Mail. If you are using Microsoft Office 4.2, your version does not include Access, but it does include the latest versions of the other three major applications.

STARTING MICROSOFT OFFICE

When Microsoft Office is installed, a Microsoft Office icon is added to the Startup window in Program Manager. If the default setup has not been changed, then Microsoft Office opens each time you start Windows. If the default setup has been changed and the Microsoft Office icon is not in the Startup window, you can still open Office. In the following exercises, you will start Microsoft Office and then explore the Microsoft Office Manager toolbar.

START MICROSOFT OFFICE

To start Microsoft Office, you need only find the Microsoft Office icon. On most systems, the icon resides in the Microsoft Office window. It is possible, however, that the Microsoft Office window has been minimized into an icon.

1. Find the Microsoft Office program group in the Program Manager.
2. Double-click on the Microsoft Office program group window.

   The Microsoft Office window opens. Notice that the window contains an icon for each application in Microsoft Office.

NOTE *If you are not using Microsoft Office Professional, you may not have an icon for Access.*

3. Double-click on the Microsoft Office icon to launch Office.

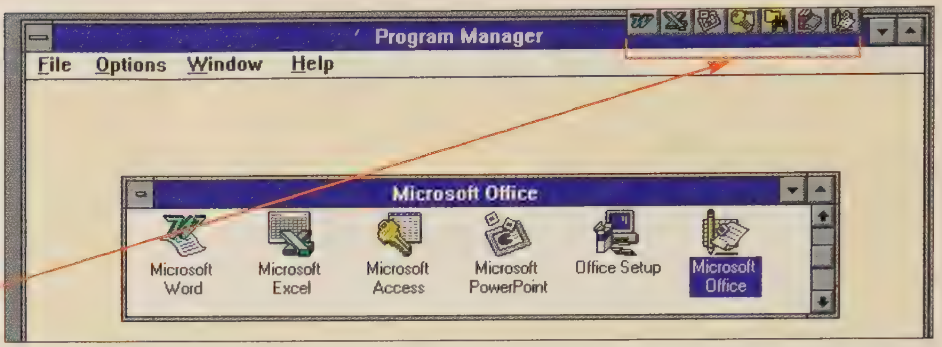
USING THE OFFICE MANAGER TOOLBAR WITH APPLICATIONS

A **toolbar button** is an icon that represents a command or function. A **toolbar** is a collection of those buttons. Generally, the Office Manager toolbar has six buttons, with the first four buttons representing the Office Professional applications.

OPEN APPLICATIONS USING THE OFFICE MANAGER TOOLBAR

Although the icon you just double-clicked on (if Office wasn't already running) was labeled "Microsoft Office," it really only displays the Office Manager toolbar. The toolbar may be visible at the top of the screen, as shown in Figure 1-5, or it may be floating in the middle of your screen. In either case, no Microsoft Office applications are open yet. You will begin opening applications in the following steps.

FIGURE 1-5
The Microsoft Office toolbar.

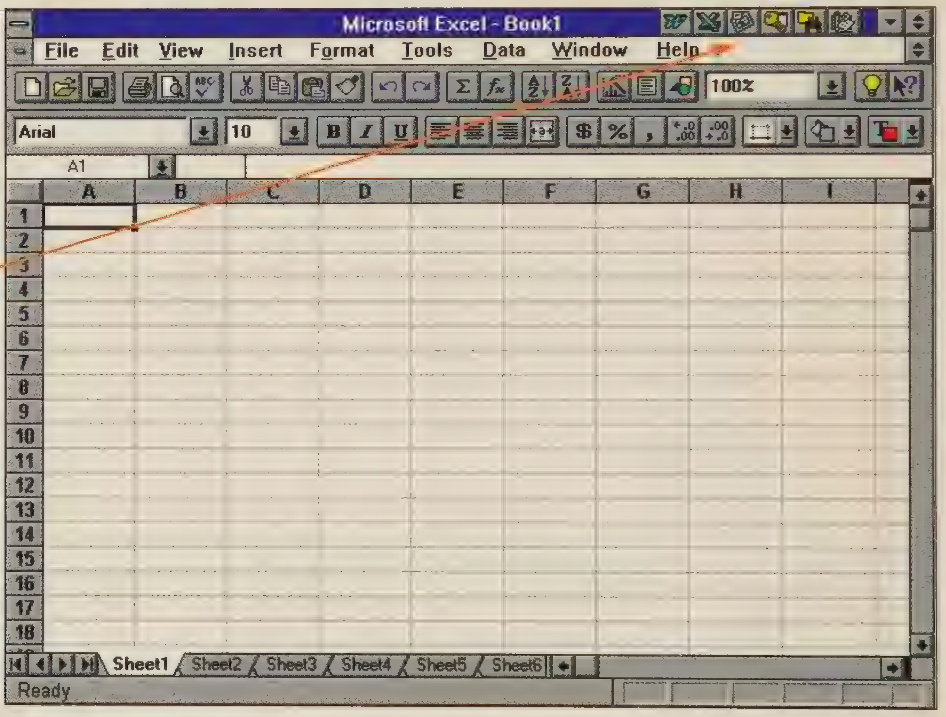


The Office toolbar

1. Click on the Excel toolbar button.

   After a moment, the Excel title screen appears. After another moment, Excel opens. Notice that the Microsoft Office Manager toolbar is displayed in Excel, as shown in Figure 1-6.

FIGURE 1-6
Microsoft Excel.



Office toolbar is still visible.

2. Click on the Word toolbar button.

   After a moment, the Word title screen appears. After another moment, Word opens. The Microsoft Office Manager toolbar is displayed in Word.

   Now you have two applications open. Switching between applications is as easy as opening applications.

3. Click on the Excel toolbar button.

   The Excel window reappears. (Notice that no title screen appeared this time.)

4. Click on the Word toolbar button.

   The Word window reappears.

NOTE *If you receive warnings from Windows when you try to open two applications at one time, consult your instructor or lab assistant. Your computer system may have inadequate memory.*

5. Click on the PowerPoint toolbar button.

   PowerPoint opens.

6. Cancel any dialog boxes that appear in PowerPoint (click on OK to close the Tip Of The Day dialog box).

7. Click on the Word toolbar button.

   The Word window replaces the PowerPoint window as the active window.

The process is the same whether you have two, three, or four applications open. Clicking on an Office application's toolbar button opens the application. If the application is already open, clicking the button switches to that application.

CLOSE AN APPLICATION USING THE OFFICE MANAGER TOOLBAR

Although Word is displayed as the active window, PowerPoint and Excel are still open. Later in this lesson, you will learn why having two or three applications open at once has advantages. For the moment, however, you will practice closing an application using the Office Manager toolbar.

TIP *Every open application uses random access memory (RAM). To conserve that memory (and help your active applications work faster), it is a good idea to close applications you will not be using soon.*

1. Close Word by double-clicking on the Control-menu box in the Word window.

   The Word window appears briefly. After a moment, Word closes.

2. Close Excel by clicking on the Excel button in the toolbar, then double-clicking on the Control-menu box in the Excel window.

   Excel closes. PowerPoint is the only application that is still open.

TILE APPLICATIONS USING THE OFFICE MANAGER TOOLBAR

As you will learn later in these lessons, one advantage of Office is being able to cut or copy information from a document in one application to a document in another application. This process is easier if you can see the document you are cutting from and the document you are pasting to. You will learn cutting, copying, and pasting techniques as you study each application. The following steps, however, show you how to display two applications at one time.

1. Click on the Excel toolbar button.

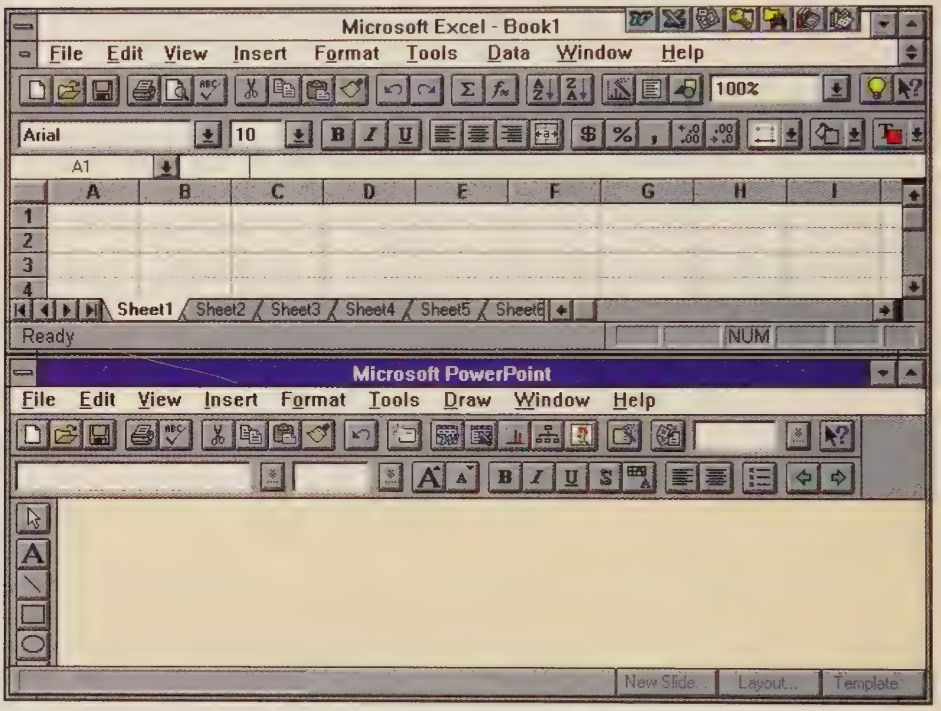
   After a moment, Excel appears as the active window.

2. Holding down Shift, click on the PowerPoint toolbar button.

   As shown in Figure 1-7, Office displays the applications as tiled windows so that both PowerPoint and Excel are displayed. Notice that because PowerPoint was the last application selected (by clicking on its toolbar button), Office considers it the active application.

FIGURE 1-7

Two applications displayed as tiled windows.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
A1
A B C D E F G H I
1 2 3 4
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM
Microsoft PowerPoint
File Edit View Insert Format Tools Draw Window Help
New Slide...
Layout...
Template...

3. Double-click on the Control-menu box in the PowerPoint window to close PowerPoint.

   PowerPoint closes. Only Excel is open.

Having both applications displayed makes it possible to drag information from one document to another, even if the documents are in different applications. You will practice dragging information later. For now, simply remember that it is possible to display two applications at once.

NOTE

Office will not tile more than two applications at once. Although you can have more than two applications open, the other applications will not be displayed.

FINDING FILES WITH THE OFFICE MANAGER TOOLBAR

You have now used four of the Office Manager toolbar buttons. Two of the remaining buttons—Find File and Office Manager—help you find files and customize the way the Office Manager toolbar looks. You will learn about the Office Manager button later. First you will explore the tools opened by the Find File button.

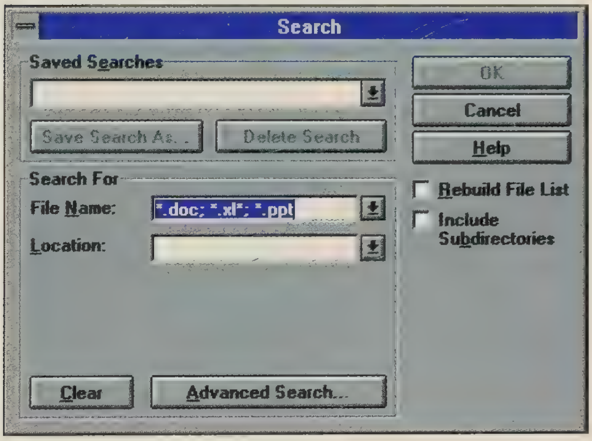
FIND FILES WITH THE FIND FILE BUTTON

With larger hard disks and computer networks, finding a file could be quite a chore. The file you need could be one of 500 files on a hard disk or 2,000 files on a computer network. Fortunately, Office has a way to reduce the time spent searching for a file. In the following steps, you will search for two kinds of files on your Lesson Disk.

1. Make sure the Lesson Disk for this Office tutorial is in your floppy drive. If you use another disk, your results in this exercise will vary, but the techniques shown are the same for searching for files on any disk.
2. Click on the Find File button on the Office Manager toolbar.

   The Search dialog box opens, as shown in Figure 1-8.

FIGURE 1-8
The Search dialog box.



File Name: *.doc; *.xl*; *.ppt

Location:

☐ Rebuild File List

☐ Include Subdirectories

3. Notice that the text in the File Name text box is highlighted.
4. Type *.xls

   The characters you typed replace the highlighted text in the text box.

   The text you typed, *.xls, tells Office Manager that you want to search for a file with any name that ends with the .XLS extension. (.XLS is the extension for Excel files.)

5. Click on the arrow beside the Location list box.

   A list of drives appears.

6. Click on the drive letter that holds your Lesson Disk.

   The drive letter you selected appears in the Location list box. Notice that the drive letter is followed by a backslash (\). This means that Office Manager will search in the root directory (the directory off which every other directory branches) for files with any name and an .XLS extension.

NOTE *This exercise assumes that the Lesson Disk is in your A drive.*

To make sure that Office Manager searches in every directory, not just the root directory, you will select an option on the Search dialog box.

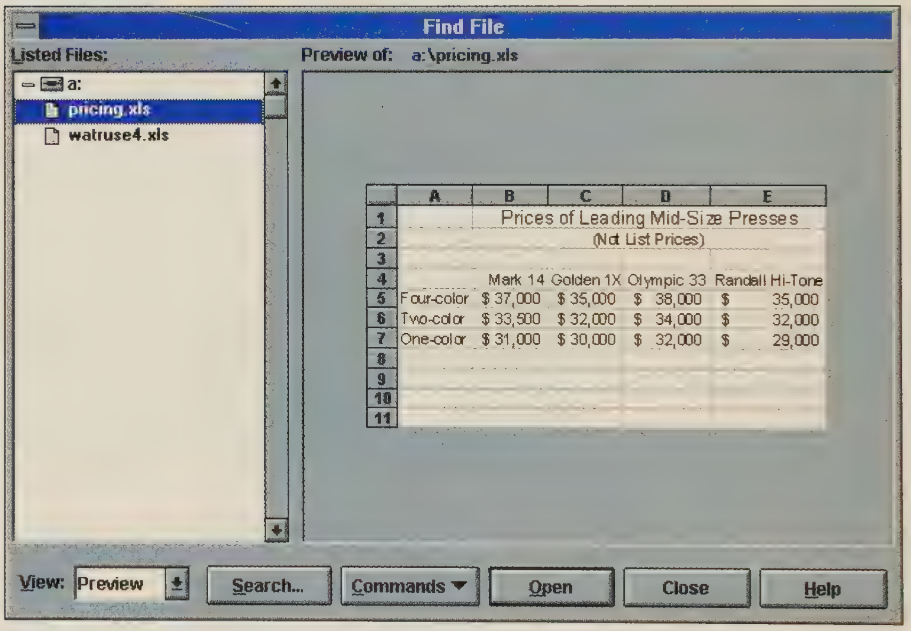
7. Click on the Include Subdirectories check box.

   An X is now in the check box.

8. Click on the OK button.

   Office Manager flashes message boxes telling you where it is searching. After a moment, the Find File dialog box appears, as shown in Figure 1-9. Notice that this dialog box displays the files it has found in the Listed Files list box.

FIGURE 1-9 *The results of the search and a preview of the first file.*



Preview of: a:\pricing.xls

	A	B	C	D	E
1		Prices of Leading Mid-Size Presses			
2			(Not List Prices)		
3					
4		Mark 14	Golden 1X	Olympic 33	Randall Hi-Tone
5	Four-color	$ 37,000	$ 35,000	$ 38,000	$ 35,000
6	Two-color	$ 33,500	$ 32,000	$ 34,000	$ 32,000
7	One-color	$ 31,000	$ 30,000	$ 32,000	$ 29,000
8					
9					
10					
11					

Besides finding files quickly, the Find File dialog box offers a bonus. It displays the first page, sheet, or slide of the highlighted file in a preview box. This saves you from having to start an application just to view a file.

9. Click on the second file listed (which may be different from the files shown in Figure 1-9).

   The highlight moves to the second file name. The preview changes to reflect the contents.

10. Double-click the Control-menu icon on the Find File dialog box.

    The dialog box disappears.

    Find File is capable of sophisticated searches for files. By selecting more than one drive, for example, you can search across several drives for a file. Find File is also available in Excel, PowerPoint, and Word.

USING OTHER OFFICE MANAGER OPTIONS

You are not limited to using the Office Manager toolbar as it was installed. In the following steps, you will customize the toolbar by changing the size of its buttons and adding another button to the toolbar.

CHANGE TOOLBAR BUTTON SIZE

As mentioned earlier, the remaining toolbar button is the Microsoft Office button. In the following steps, you will use the Microsoft Office button to customize the Office Manager toolbar.

1. Click on the Microsoft Office button.

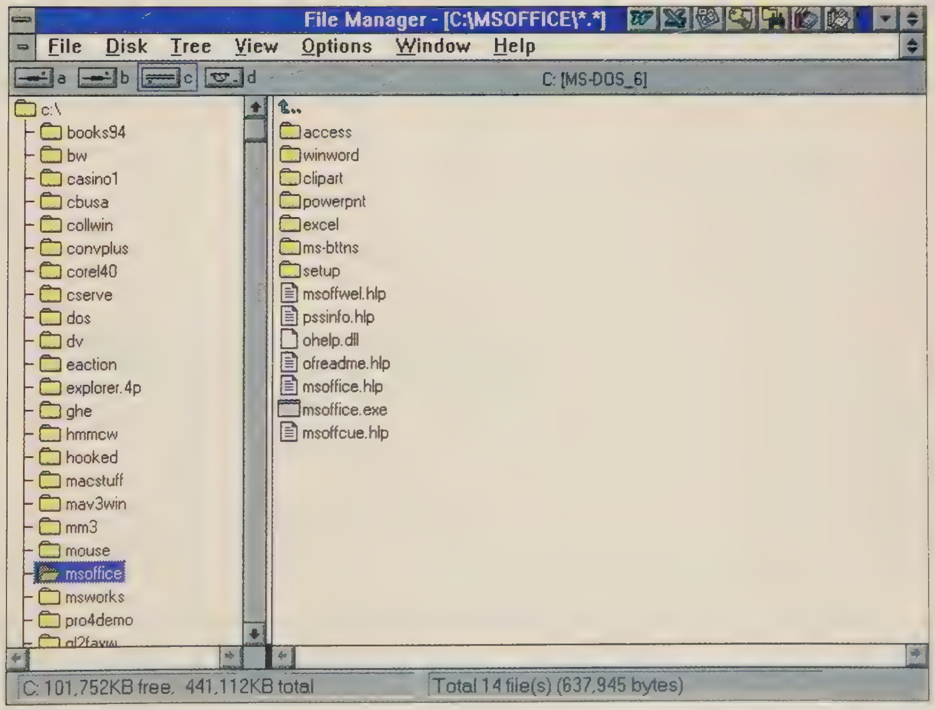
   A menu opens, offering additional Office Manager options. Your menu may vary, depending on what elements of Office you have installed on your system.

2. Click on the File Manager option.

   After a moment, the File Manager window, shown in Figure 1-10, is displayed. File Manager is a way to copy, delete, move, and rename files. (Your File Manager window may be different.)

FIGURE 1-10

File Manager.



C: 101,752KB free, 441,112KB total

Total 14 file(s) (637,945 bytes)

3. Click on the Excel toolbar button to return to Excel.
4. Click on the Microsoft Office button again.

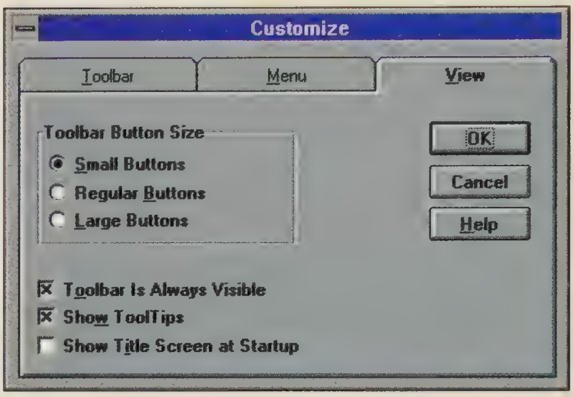
   The menu opens again. Notice that you can access Office Setup And Uninstall, as well as Help, from this menu.

5. Click on the Customize command.

   The Customize dialog box appears, as shown in Figure 1-11. If the View tab is not active click on the word "View."

FIGURE 1-11

The Customize dialog box.



Toolbar Button Size
- ● Small Buttons
- ○ Regular Buttons
- ○ Large Buttons

- ☒ Toolbar Is Always Visible
- ☒ Show ToolTips
- ☐ Show Title Screen at Startup

6. Click on the Large Buttons option.

   The black dot moves to the Large Buttons option, showing it has now been selected.

7. Click on the OK button.

   The Office Manager toolbar expands and jumps to the middle of the screen, where it can be dragged to any location by clicking on its Title bar.

8. Click on the Microsoft Office button.

   The menu of options reappears.

9. Click on the Customize command.

   The Customize dialog box reappears.

10. Click on the Small Buttons option.
11. Click on the OK button.

    The small buttons return. The toolbar adjusts again and returns to its usual place in the upper-right corner of the screen.

ADD AND REMOVE TOOLBAR BUTTONS

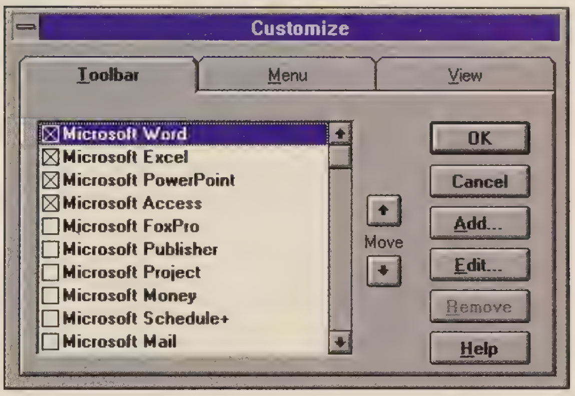
As you become familiar with the Office Manager toolbar, you might decide to add another program to the toolbar. For example, perhaps you often use File Manager. You can easily add this button.

1. Click on the Microsoft Office button.
2. Click on the Customize command on the menu.

   The Customize dialog box opens.
3. Click on the Toolbar tab.

   The Toolbar dialog box is displayed, as shown in Figure 1-12.

FIGURE 1-12
The Toolbar dialog box.



☒ Microsoft Word
☒ Microsoft Excel
☒ Microsoft PowerPoint
☒ Microsoft Access
☐ Microsoft FoxPro
☐ Microsoft Publisher
☐ Microsoft Project
☐ Microsoft Money
☐ Microsoft Schedule+
☐ Microsoft Mail

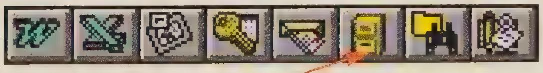
The Toolbar dialog box displays a list of check boxes. Each check box represents an application, and applications with buttons on the toolbar have an X in their check boxes. By selecting or deselecting these check boxes, you add or remove buttons to and from the toolbar. Notice that there are applications on this list that are not installed on your system.

4. Scroll to the listing for File Manager and click on its check box.

   The check box now has an X.
5. Click on the OK button.

   The dialog box closes. The toolbar, shown in Figure 1-13, has a button for File Manager.

FIGURE 1-13
The restructured Office Manager toolbar.



The File Manager button has been added to the toolbar

6. Click on the File Manager tool to test it.

   The File Manager window should now be displayed on your screen.

If you want to return the Office Manager toolbar to the default options, you may do so now.

SHORT-ANSWER QUESTIONS

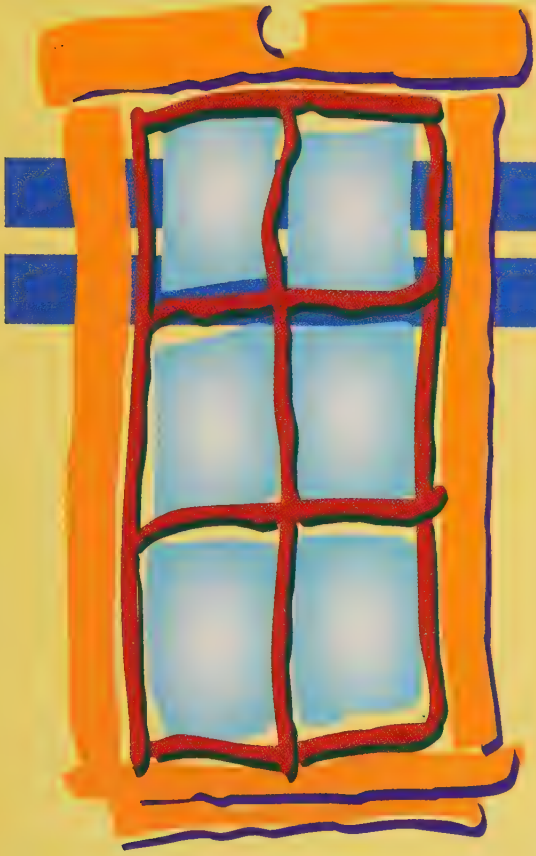
Write a brief answer to each of the following questions:

1. What is the advantage of having two applications displayed in tiled windows?
2. Why would you want to customize the Office Manager toolbar?
3. What is the difference between clicking on an application button on the Office Manager toolbar and clicking on it while holding down Alt?
4. What is the advantage of having the Microsoft Office icon in the Startup window?
5. What happens when you hold down Shift while clicking on an application button in the Office Manager toolbar?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open each application on the Office Manager toolbar. Move the application windows so you can see at least part of each window. If your computer does not have enough memory to open all the applications, open as many as you can.
2. Using your Project Disk, search for files with the following extensions: .DOC and .PPT, searching first for one and then the other. On a separate piece of paper, list the number of files you found for each extension. If Find File found no files with these extensions, click on the Search button and conduct another search using another extension.
3. Display the Customize dialog box. Select the Toolbar category tab. Click on the last displayed application on your list. To the right of the list of applications is the word "Move." Above and below "Move" are two buttons, one pointing up and the other pointing down. Click on the up arrow button until the highlighted application appears first on the toolbar. Using the up and down arrow buttons, customize the order of the buttons on the toolbar.



MICROSOFT WORD FOR WINDOWS

A TUTORIAL TO ACCOMPANY *PETER NORTON'S INTRODUCTION TO COMPUTERS*

HEATHER DUGGAN

GLENCOE
MCGRAW-HILL

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Microsoft Word for Windows
A Tutorial to Accompany
Peter Norton's Introduction to Computers

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CONTENTS

Preface, vii

LESSON 1
WORD BASICS 2

Objectives, 2
Starting Word for Windows, 3
Identifying the Parts of the Window, 5
  Understanding the Menu Bar, 6
  Working with Toolbars, 16
Scrolling Through a Document, 19
Moving Through Text, 21
Typing Text, 24
Selecting Text, 26
Closing a Document, 29
Using Simple Formatting Commands, 30
Saving the Document, 32
Printing the Document, 34
Quitting Word, 35
Command Summary, 35
Matching Exercise, 38
Multiple-Choice Questions, 39
Short-Answer Questions, 41
Application Projects, 41

LESSON 2
CREATING AND EDITING DOCUMENTS 42

Objectives, 42
Using a Template, 43
Creating a Memo, 46
Deleting Text, 48
Undoing an Action, 49
Using Overtype Mode, 51
Cutting and Pasting Text, 53
Dragging-and-Dropping Text, 54
Copying and Pasting Text, 55
Saving the Document, 56
Previewing the Printed Document, 57
Command Summary, 59
Matching Exercise, 60
Multiple-Choice Questions, 61
Short-Answer Questions, 63
Application Projects, 63

LESSON 3

FORMATTING TEXT 64

Objectives, 64
Understanding Text Formats, 65
Formatting the Title, 70
Using Predefined Styles, 72
Formatting the Subheadings, 73
Copying the Formatting, 74
Changing Indents, 75
Changing Spacing Between Paragraphs, 77
Creating a Style, 78
Repeating a Style, 80
Modifying Styles, 81
Aligning Text, 83
Command Summary, 86
Matching Exercise, 87
Multiple-Choice Questions, 88
Short-Answer Questions, 90
Application Projects, 90

LESSON 4
CREATING A NEWSLETTER 92

Objectives, 92
Using the Newsletter Wizard, 93
Adding Text, 96
Adding Graphics, 100
Adding Dates, Topics, and Headlines, 102
Finishing Up, 104
Changing the View, 107
Changing the Page Setup, 109
Changing the Number of Columns, 112
Repositioning a Graphic, 112
Modifying a Style, 115
Creating a Template, 118
Command Summary, 119
Matching Exercise, 120
Multiple-Choice Questions, 121
Short-Answer Questions, 123
Application Projects, 123

LESSON 5
WORKING WITH GRAPHICS 124

Objectives, 124
Drawing in Word, 125
Copying and Pasting Objects, 128
Moving Objects, 129

Using the Line Tool, 129
Filling Objects with Color, 130
Changing the Line Color, 131
Changing the Order of Graphics, 132
Creating a Text Box, 133
Creating a Frame, 134
Applying a Border, 135
Creating Tables, 136
Filling In a Table, 138
Formatting a Table, 139
Command Summary, 141
Matching Exercise, 142
Multiple-Choice Questions, 142
Short-Answer Questions, 144
Application Projects, 144

LESSON 6
WORKING WITH LONG DOCUMENTS 146

Objectives, 146
Moving Through a Long Document, 147
Locating a Text Block, 149
Placing a Bookmark, 151
Correcting Repeated Mistakes, 153
Numbering Headings, 155
Using Outline View, 157
Adding Page Headers and Footers, 160
Adding Footnotes, 162
Creating a Table of Contents, 165
Command Summary, 167
Matching Exercise, 168
Multiple-Choice Questions, 168
Short-Answer Questions, 170
Application Projects, 171

COMMAND SUMMARY 173

GLOSSARY 181

INDEX 187

PREFACE

This *Microsoft Word for Windows Tutorial* is one of the instructional tools that complement *Peter Norton's Introduction to Computers*. Glencoe and Peter Norton have teamed up to provide a new approach to computer education, one not reflected in traditional computer textbooks. The text and its ancillary materials are grounded in the philosophy that knowledgeable, empowered end users will provide the gains in productivity that both businesses and individuals need in the 1990s and beyond. Mere button pushing is not enough; in order to handle increasingly complex computer tasks, both in the workplace and in the home, computer users must understand the concepts behind their computer hardware and software.

STRUCTURE AND FORMAT OF THE MICROSOFT WORD FOR WINDOWS TUTORIAL

This book exposes you to a range of functions and techniques. You will be given the opportunity to perform these functions several different ways. You will see that Microsoft Word for Windows can adapt to the way you want to work, rather than your adapting to it. Because Microsoft Word for Windows is such a rich program, practicing new functions and techniques is an important part of your work. To help you practice, each lesson includes the following:

- *Explanations of important concepts*. Each section of each lesson begins with a quick explanation of the concept or software feature being covered. The explanations help you understand "the big picture" as you learn each new facet of the program.
- *New terms in boldface*. An important part of learning about computers is learning the terminology. Each new term in the text is set in **boldface** and defined the first time that it is used. As you encounter these words, read their definitions carefully. If you encounter the same word later and have forgotten its meaning, you can look it up in the Glossary at the back of the book.
- *Step-by-step instructions*. Because most students learn best by doing, each explanation is followed by a concise set of steps, which you complete at the computer. As you perform the steps, you will be creating and modifying real Microsoft Word for Windows documents.
- *Many illustrations*. As you work through the tutorial, you will find many figures that help you stay on track. The figures are used to point out features on the screen and illustrate what your screen should look like after important steps are completed.
- *Command summaries*. At the end of each lesson, there is a Command Summary that reviews both mouse and keyboard techniques for

completing each task covered in the lesson. Where toolbar buttons are available, they are also included in the Command Summary.

- *Review exercises.* Following the Command Summary, you will find three types of objective questions: a matching exercise, multiple-choice questions, and short-answer questions. Completing these exercises will help you make sure that you have learned all the concepts and skills that have been covered in the lesson.
- *Application projects.* The last element in each lesson is a set of Application Projects that can give you extra hands-on practice using your problem-solving skills and the techniques you have learned in the lesson to create or modify real Microsoft Word for Windows documents.
- *Command summary, Glossary and Index.* At the back of the book, there are a Command Summary, Glossary and an Index. Use the Glossary to look up terms that you don't understand and the index to find specific information in the book.
- *Student Data Disk.* Attached to the inside back cover of this book you will find a floppy disk called the Student Data Disk. This disk contains Microsoft Word for Windows files that you will use to complete the step-by-step and hands-on exercises in the book. You should make a copy of this disk immediately.

After you complete this book, you will have the skills necessary to create, process, and present information in a variety of ways using Microsoft Word for Windows.

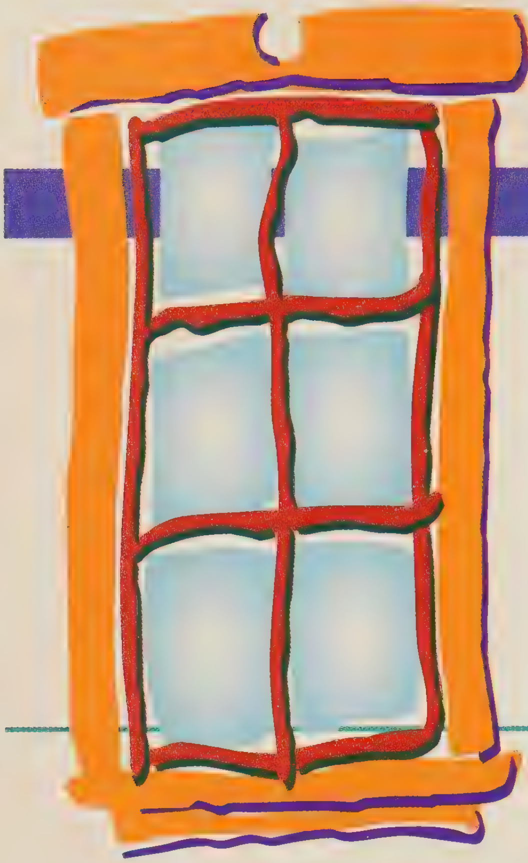
ABOUT PETER NORTON

Peter Norton is a pioneering software developer and author. Norton's *Desktop for Windows*, *Utilities*, *Backup*, *AntiVirus*, and other utility programs are installed on millions of PCs worldwide. His *Inside the IBM PC* and *DOS Guide* have helped millions of people understand computers from the inside out.

Glencoe has teamed up with this trusted name in computers to help you better understand the role computers play in your life. You may use this resource as a textbook now and a reference book later as you begin your productive use of computers in your chosen profession.

REVIEWER

Many thanks are due to Barbara Heiman, Santa Rosa Jr. College, who reviewed the manuscript and gave advice on how to improve the book.



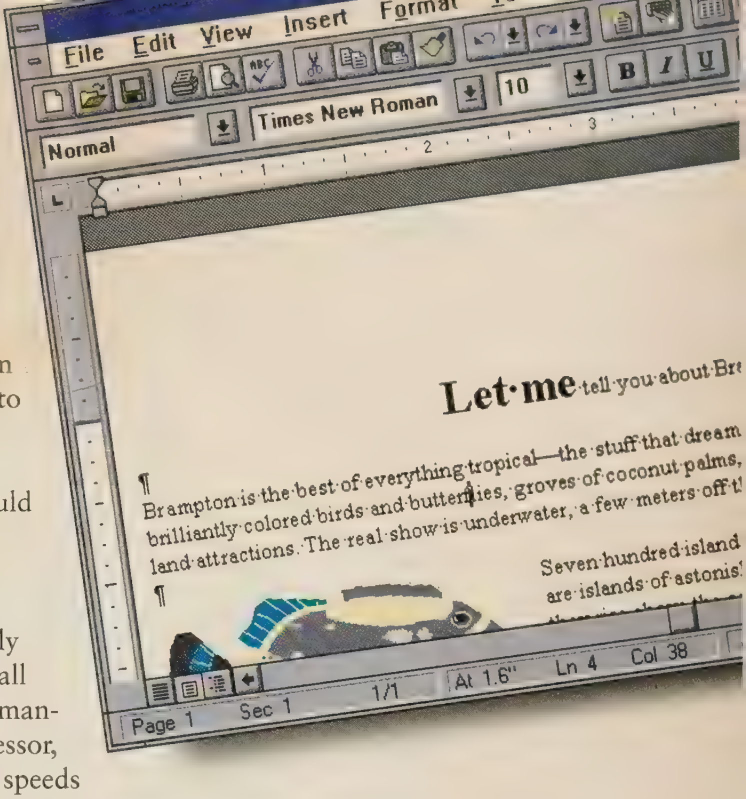
LESSON 1

WORD BASICS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Start the Word for Windows program.*
- *Name the parts of the Word application window.*
- *Move through a document.*
- *Type and select text.*
- *Close a document.*
- *Save documents onto a disk.*
- *Print a document.*
- *Exit the Word program.*



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Brampton·is·the·best·of·everything·tropical—the·stuff·that·dream
brilliantly·colored·birds·and·butterflies,·groves·of·coconut·palms,
land·attractions.·The·real·show·is·underwater,·a·few·meters·off·t

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In this lesson, you will learn the basics of Word for Windows. By the end of this lesson, you will be able to start and exit from Word, as well as being able to open, save, and print a document.

Before you start, you should have a good overall understanding of what a word processor can do. A **word processor** allows you to easily create documents—from small letters to complex technical manuals. A powerful word processor, such as Word for Windows, speeds up the process of creating even the simplest document by automating some of the work and letting you quickly go back and make any needed changes. When you start creating more complex documents, Word's extensive set of features—from index generators to drawing and charting tools—will help you produce a professional-looking document quickly and easily. And word processing software no longer merely processes words. You can easily incorporate drawings, charts, and equations into your document.

To begin your adventure, take time during this lesson to familiarize yourself with the Word workplace—the features you will be using to create any document imaginable.

Begin the lesson by starting Word and familiarizing yourself with the contents of the application window.

STARTING WORD FOR WINDOWS

As you learned in the Windows tutorial, you can start any Windows application by locating its application icon within the Windows Program Manager, the main application on the Windows desktop. The Program Manager has many different applications within it, with collections of applications appearing together within a group. The Word for Windows application will be grouped either by itself, or with the other applications which make up the Microsoft Office office suite, a collection of office products from Microsoft. After locating the Word application icon, you start Word simply by double-clicking on its application icon.

START WORD FOR WINDOWS

1. If you have not already started Windows, start it now by typing **win** and pressing Enter.

   The Program Manager window appears on the Windows desktop, as shown in Figure 1-1. The window contains many different groups of applications, each with its own title. These program groups can be opened up into a group window, or closed down into a group icon.

2. Within the Program Manager window, locate the group icon or group window that contains the Word for Windows application. This group icon may say Word for Windows or Microsoft Office. If it is not already open, double-click this group icon to open it.

   Once you open the group window, the application icons within this group display on your desktop. Notice that there are several different icons within this group window.

3. Double-click the Microsoft Word application icon, as shown in Figure 1-2.

   After a few moments, the Microsoft Word application window displays on screen.

   You may see a dialog box listing the "Tip of the Day," like that shown in Figure 1-3. If you have this option set, Word for Windows will display a tip each time you start the Word application. This is a simple and painless way of familiarizing yourself with the Word application.

FIGURE 1-1

When you first start Windows, the Program Manager window appears on your desktop. Collections of applications are available within groups in this window. These groups can either be opened into a group window, or closed into a group icon.

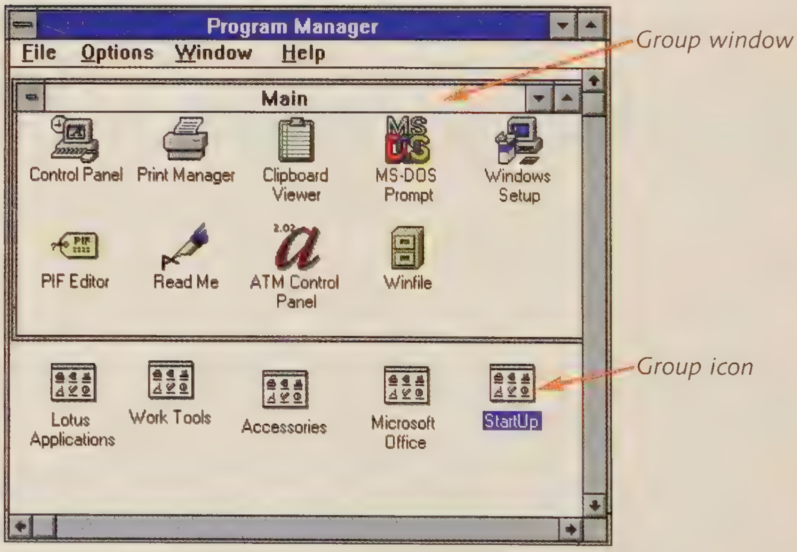
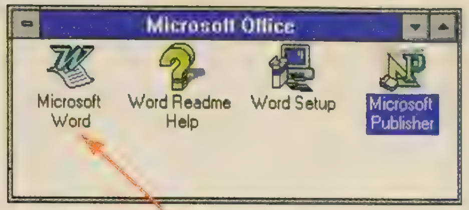


FIGURE 1-2

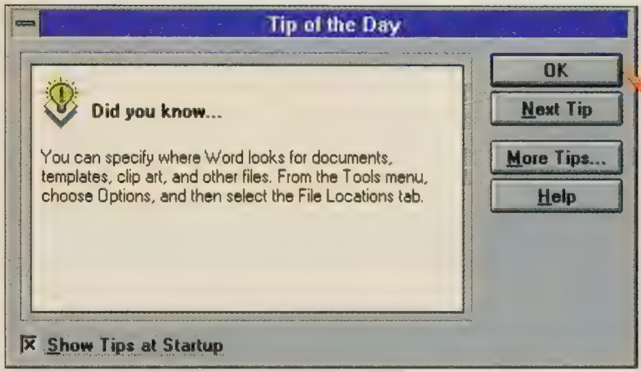
After opening the appropriate group icon, you will see the Word for Windows application icon, which is labelled Microsoft Word. You can start Word for Windows by double-clicking on this icon.



The Microsoft Word icon

FIGURE 1-3

When you start Word for Windows, the first thing you may see is a "Tip of the Day." If you set this option, read these tips each time you start Word for Windows to quickly familiarize yourself with Word for Windows.



Did you know...

You can specify where Word looks for documents, templates, clip art, and other files. From the Tools menu, choose Options, and then select the File Locations tab.

☒ Show Tips at Startup

The default command button

4. After reading the tip, choose OK to dismiss this dialog box.

   Remember that you can choose a command button, such as the OK button in this dialog, either by clicking on it with the mouse pointer or by pressing Enter *to select the default command button.*

IDENTIFYING THE PARTS OF THE WINDOW

The Word application is contained within an **application window**, as shown in Figure 1-4. Note that the Word application window on your screen may look a little different from the one shown in this figure. This is because you can customize the Word window in many different ways to make the application easier to control. Later in this lesson, you will be changing the way your application window looks. For now, just refer to Figure 1-4 to familiarize yourself with the different parts of the Word for Windows application window.

At the top of the application window, the **Title bar** displays the name of the application and the name of the current document. Since you have not yet named this document, Word supplies the temporary name "Document 1."

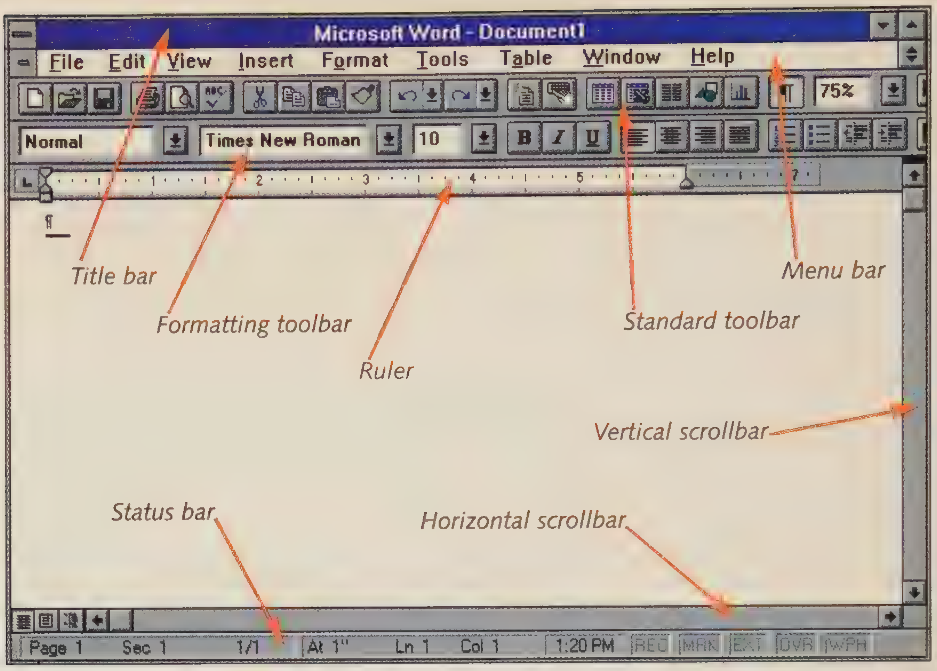


FIGURE 1-4
Once you have started Word for Windows, the main application window displays. This window's main elements are identified.

UNDERSTANDING THE MENU BAR

As shown in Figure 1-5, the Word Menu bar is below the title bar. The Menu bar displays some of the menu names found in most Windows applications, such as File, Edit, and Help. Word also includes several menus that contain commands specific to word processing, such as Format and Table.

As you learned in the Windows tutorial, you can display a menu several different ways. The most common way is to move the mouse pointer over a menu name within the menu bar and then click the left mouse button to display the menu. If you prefer to use the keyboard, press Alt on your keyboard, then press the underlined letter in the menu name to display that menu. For example, to display the File menu, you would press Alt and then the letter *f* (Alt+f).

Once you have displayed a menu, you can choose a command from it using either the mouse or the keyboard. To choose a command using the mouse, point to the command you want and click the left mouse button. To choose a command using the keyboard, press the underlined letter of the command. For example, to choose the Open command from the File menu, press the letter *o* when the File menu is displayed.

Although the lessons in this tutorial will stress the mouse method for performing most commands, at the end of each lesson we list the keyboard method of choosing all of the commands discussed within the lesson.

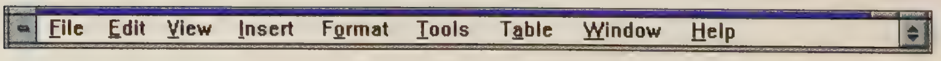


FIGURE 1-5
Near the top of the Word for Windows application window, you will see the Menu bar. It lists the names of some menus you have seen before in other Windows applications, such as File, Edit, and Help. It also includes several menus specific to word processing, such as Format and Table.

Before you begin looking at each of the available menus, read the list of menu names and available functions in the table below:

TABLE 1-1: WORD MENUS

MENU	DESCRIPTION
File	Allows you to control your document files by opening, saving, and printing them.
Edit	Allows you to rearrange the elements within your document by copying, moving, and deleting them.
View	Allows you to change how your document looks on screen.
Insert	Allows you to insert various elements into your document, such as special characters or pictures.
Format	Allows you to change the appearance of the elements within your document, such as the size of a character or the alignment of a paragraph.
Tools	Allows you access to some of Word's specialized tools such as the Spelling Checker or the Thesaurus.
Table	Allows you to insert and format tabular information in your document.
Window	Allows you to split your application window into several subwindows.
Help	Allows you to access Word's on-line help system.

Take a moment now to look at some of the commands available from the Word Menu bar. This is a good way to begin familiarizing yourself with any new application.

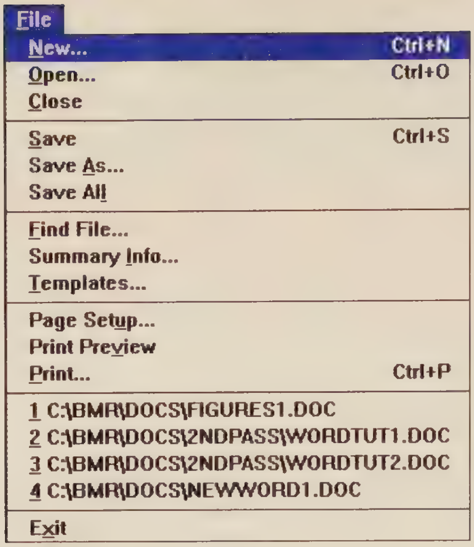
TAKE A QUICK TOUR THROUGH THE AVAILABLE MENUS

1. Display the File menu by clicking File in the Menu bar.

   The File menu drops down, as shown in Figure 1-6.

Notice that this menu includes some of the commands found in all Windows applications, such as Open (for opening files), Close (for closing files), Save and Save As (for saving files), Print (for printing files), and Exit (for exiting from the application). In addition, it contains some commands you might not have seen before, such as Find File (for locating a misplaced document on disk), Print Preview (for previewing your document before sending it to the printer), and Page Setup (for changing the paper size used by your document). We will be using some of the commands from the File menu in this and the next lesson.

FIGURE 1-6
Choose File from the Menu bar to display the File menu. The File menu allows you to work with your documents by creating, opening, saving, and printing them.



Also notice in Figure 1-6 that several document names may be listed at the bottom of the File menu. Word keeps track of the last several documents you have opened and lists them here, so that you can quickly open them. This is very convenient if you want to continue editing the same document for several days and don't want to have to search through your directories to find it.

There are several ways to dismiss a menu when you have finished looking at it. Using the mouse button, you can click outside the menu, or click on another menu item in the Menu bar to display another menu. Using the keyboard, you can press → and ← to move through the available menu items on the menu bar, or press Esc to dismiss a menu. As you explore the menus, use the method with which you are most comfortable.

2. Using any of the methods just described, dismiss the File menu.

3. Display the Edit menu by clicking Edit in the Menu bar.

   The Edit menu commands, shown in Figure 1-7, allow you to move and copy information within your document, as well as allowing you to move and copy information between Windows applications. This menu also includes commands (such as Find and Replace) for quickly locating and replacing information within your document.

We will be using the Edit menu to rearrange information in our document later in this lesson.

4. Dismiss the Edit menu, and then display the View menu.

   The commands on the View menu, shown in Figure 1-8, control the way your document looks on screen, and also allow you to control which Word elements display in the Word application window.

Since many of these screen elements are helpful for beginning users, you will add a few of them to the application window now.

FIGURE 1-7

Choose Edit from the Menu bar to display the Edit menu. The Edit menu allows you to copy and move information within one document and between different documents. It also includes commands for quickly locating and replacing information within your document.

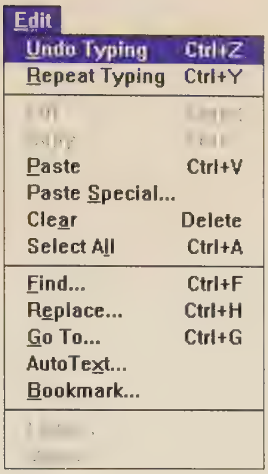
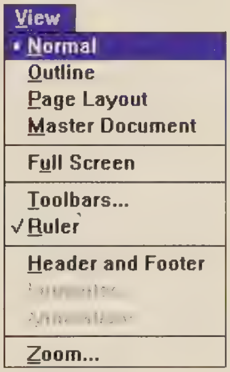


FIGURE 1-8

Choose View from the Menu bar to display the View menu. The View menu allows you to control the way your document looks on screen, and also allows you to control which Word elements display in the Word application window.



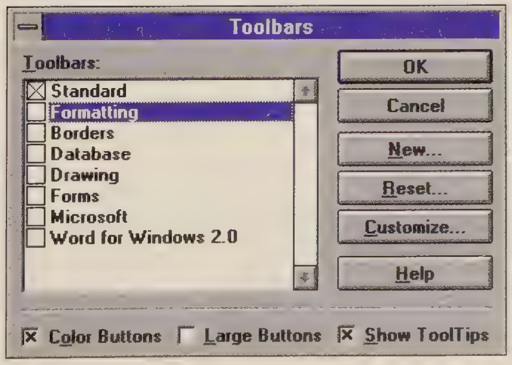
One of the most useful screen elements for beginning users is the Standard **toolbar**, a row of command buttons, organized by functions, that has a graphical icon representing each of the functions. Word for Windows includes several of these toolbars, each arranged for different purposes. We will add a few of them now to your application window.

5. Choose Toolbars from the View menu.

   The Toolbars dialog box displays, as shown in Figure 1-9.

FIGURE 1-9

Choose Toolbars from the View menu to display the Toolbars dialog box. The Toolbars dialog box allows you to control which of the many Word toolbars display on screen as you work.


Toolbars:
☒ Standard
☐ Formatting
☐ Borders
☐ Database
☐ Drawing
☐ Forms
☐ Microsoft
☐ Word for Windows 2.0

☒ Color Buttons ☐ Large Buttons ☒ Show ToolTips

This dialog box allows you to control which of the many Word toolbars display on screen as you work.

You will find the Standard and Formatting toolbars very useful for completing the exercises in this tutorial. To have these toolbars display within your Word for Windows application window, you must select the checkbox beside each of their names within the Toolbars dialog box.

6. Make sure the checkboxes before Standard and Formatting are selected within the Toolbars dialog box. (Remember that if a checkbox is selected, an *x* appears within it.) If these checkboxes are not selected, click on the checkbox in front of each of these items to select them. If any other checkboxes are selected, deselect them now by clicking on the checkbox once.

7. Choose OK.

   Word displays the Standard toolbar at the top of the application window (below the Menu bar), and displays the Formatting toolbar below this, as shown in Figure 1-10.

Later in this lesson, you will use the buttons on both of these toolbars to issue Word commands.

One other useful element to have on screen is the **ruler**. The ruler allows you to easily judge measurements on your page, whether you are trying to indent a paragraph or place a picture on the page. You will be using the ruler later to set the indentation for a paragraph within your document.

Turn the ruler on now.

8. Display the View menu again and make sure the ruler is turned on. If it is, a checkmark appears before the name Ruler in the menu. If this checkmark does not appear, choose Ruler to turn it on.

   The ruler displays below the Formatting toolbar, as shown in Figure 1-11.

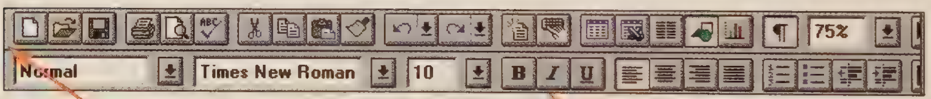


FIGURE 1-10

Once you have selected the Standard and Formatting toolbars from the Toolbars dialog box, they appear on your screen, directly below the Menu bar. The buttons in these toolbars allow you one-step access to Word's most frequently used commands.

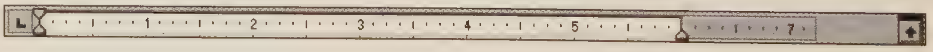


FIGURE 1-11

After choosing Ruler from the View menu, the page ruler appears on screen below the toolbars. The ruler allows you to easily place and measure elements within your document.

With all these standard window elements now turned on, the Word application window on your screen should now resemble that shown in Figure 1-4.

You have finished working with the View menu. Now let's move on to the next menu on the Menu bar.

9. The next item in the Menu bar is the Insert menu. Display it now.

The Insert menu, shown in Figure 1-12, allows you to insert various elements, such as text, pictures, and special symbols, into your document.

Later in this tutorial, you will use the Insert menu to create a simple newsletter by inserting two stories and a graphic into one of Word's many pre-formatted documents. But for now, just notice the types of commands available here.

10. Dismiss the Insert menu, and then display the Format menu.

The Format menu, shown in Figure 1-13, allows you to change the appearance of various elements in your document, such as word size, paragraph indentation, or graphic size.

FIGURE 1-12

Choose Insert from the Menu bar to display the Insert menu. This menu allows you to insert various elements, such as text pictures and special symbols, into your document.

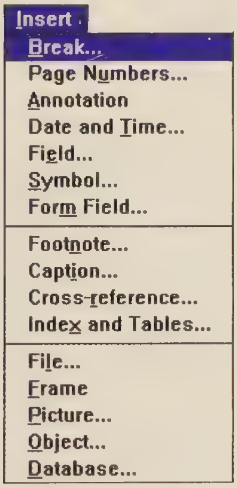
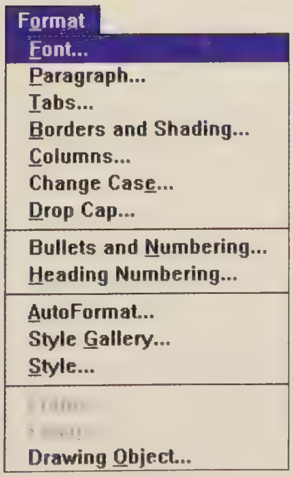


FIGURE 1-13

Choose Format from the Menu bar to display the Format menu. The Format menu allows you to change the appearance of various elements in your document, such as text size, paragraph indentation, or graphic size.



Since so much of the time needed to create a document is spent changing the appearance of the text and other elements, you will have ample time during this tutorial to learn the commands on this menu. For now, just notice the wide range of elements that you can format—from text to pictures.

11. Dismiss the Format menu, and then display the Tools menu.

The Tools menu, shown in Figure 1-14, contains simple tools like the spelling checker, to more complex tools like Mail Merge.

As you become more familiar with Word and start producing longer or more complex documents, you will use these tools to automate many tasks. We will lead you through some of these operations in later lessons.

12. Dismiss the Tools menu, and then display the Table menu.

The Table menu, shown in Figure 1-15, allows you to create and format tabular data (information which appears in columns) within a Word document. This feature makes it very simple to create an attractive table out of any tabular data you want to present.

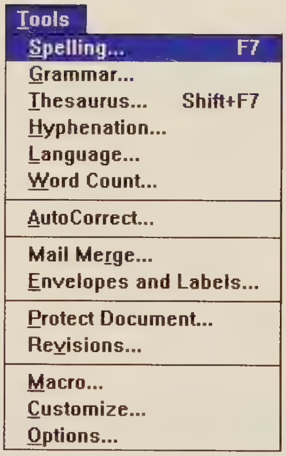


FIGURE 1-14

Choose Tools from the Menu bar to display the Tools menu. The Tools menu contains simple tools like the spelling checker, to more complex tools like Mail Merge.

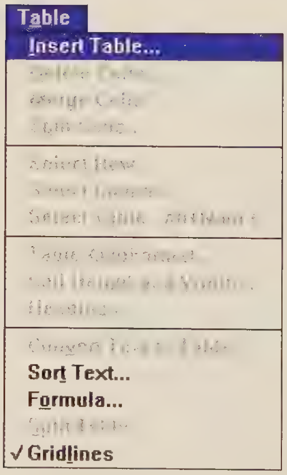


FIGURE 1-15

Choose Table from the Menu bar to display the Table menu. This menu allows you to create and format tabular data within a Word document.

13. Dismiss the Table menu, and then display the Window menu.

    The Window menu, shown in Figure 1-16, allows you to split your document between different windows, or to display two or more documents at the same time within the Word application window. This is convenient when working with long documents, or when moving information between different documents. When you have more than one Word document open, the Window menu also allows you to move quickly between them.

14. Dismiss the Window menu, and then display the Help menu.

    The Help menu, shown in Figure 1-17, gives you access to Word's on-line help and tutorials.

    If you have a free moment at the computer some day, you might want to choose the Examples and Demos option from the Help menu and examine some of the information available on-line for quickly learning Word's most useful features. For now, look at some of the topics available.

15. Choose Contents from the Help menu.

    The Word Help screen appears, as shown in Figure 1-18. This screen breaks Word's on-line help into several different sections: Using Word, Examples and Demos, Reference Information, Programming with Microsoft Word, and Technical Support.

FIGURE 1-16

Choose Window from the Menu bar to display the Window menu. It allows you to split your document between two different windows, or to display two documents at the same time within the Word application window.

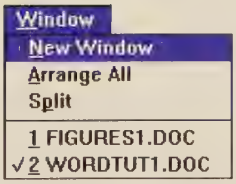
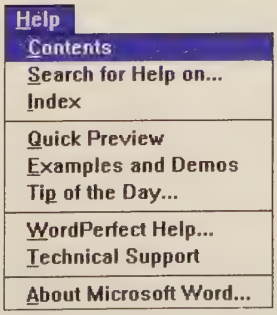
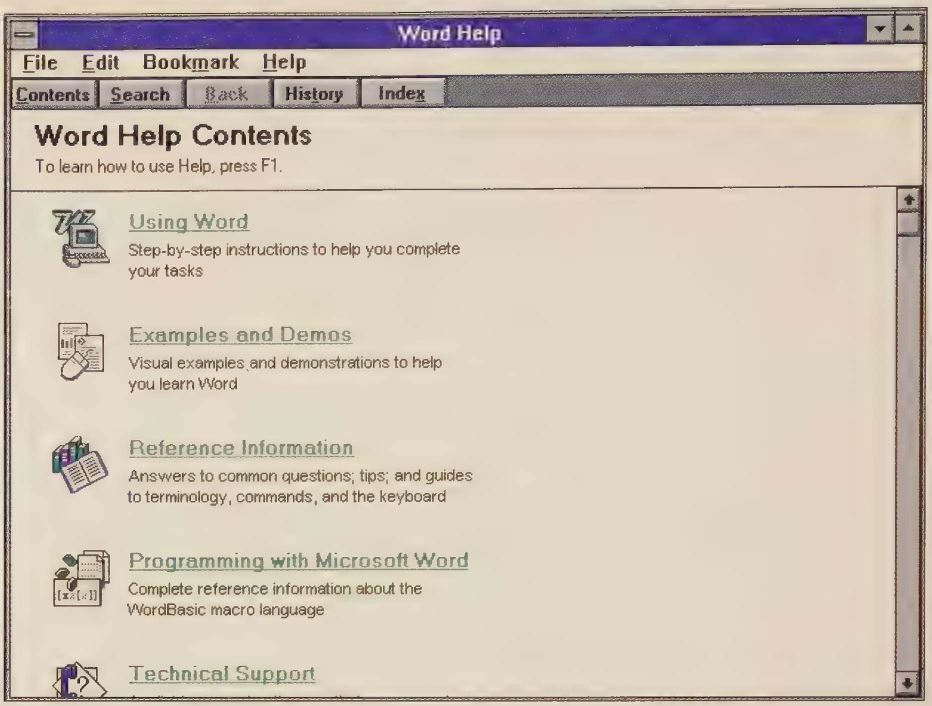


FIGURE 1-17

Choose Help from the Menu bar to display the Help menu. This menu gives you access to Word's on-line help and tutorials.





Word Help Contents

To learn how to use Help, press F1.

Using Word

Step-by-step instructions to help you complete your tasks

Examples and Demos

Visual examples and demonstrations to help you learn Word

Reference Information

Answers to common questions; tips; and guides to terminology, commands, and the keyboard

Programming with Microsoft Word

Complete reference information about the WordBasic macro language

Technical Support

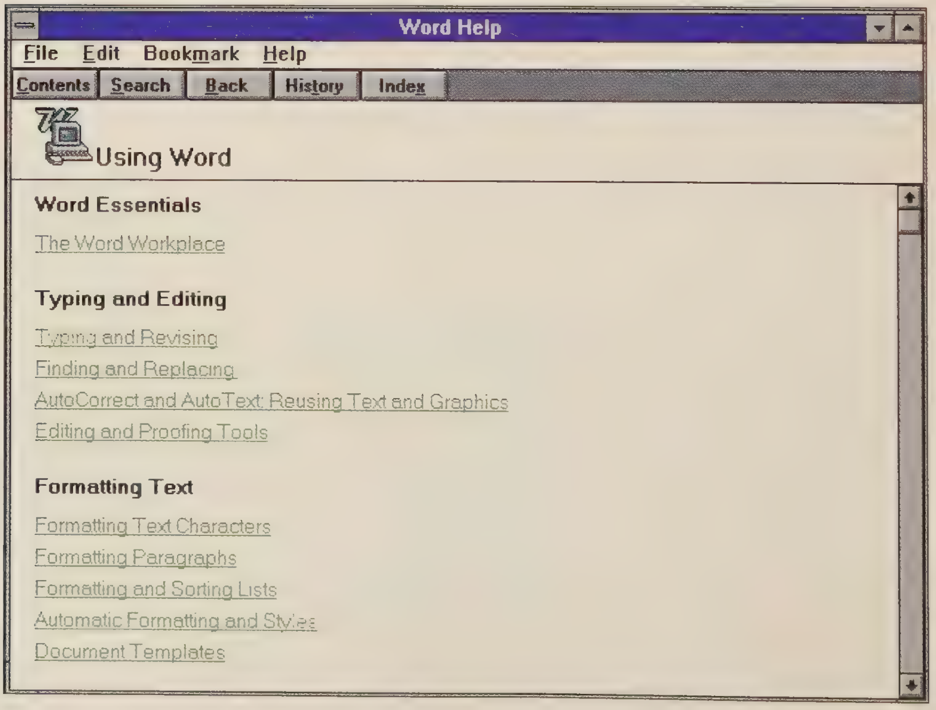
FIGURE 1-18

Choose Contents from the Help menu to display the Help Contents dialog box. The Help Contents dialog box allows you to select which area of the on-line help you want to explore. Clicking on any of the green, underlined words displays a screen for the specified help topic.

16. Choose the Using Word option to display more detail on this topic.

The list of topics available under Using Word appears, as shown in Figure 1-19. Clicking on any of the green, underlined text will reveal more information on that topic.

17. Choose The Word Workplace to find out more about the Word workplace.



Using Word

Word Essentials

The Word Workplace

Typing and Editing

Typing and Revising

Finding and Replacing

AutoCorrect and AutoText: Reusing Text and Graphics

Editing and Proofing Tools

Formatting Text

Formatting Text Characters

Formatting Paragraphs

Formatting and Sorting Lists

Automatic Formatting and Styles

Document Templates

FIGURE 1-19

Choose Using Word from the Contents dialog box to see the topics available under this heading.

The topics under this heading display.

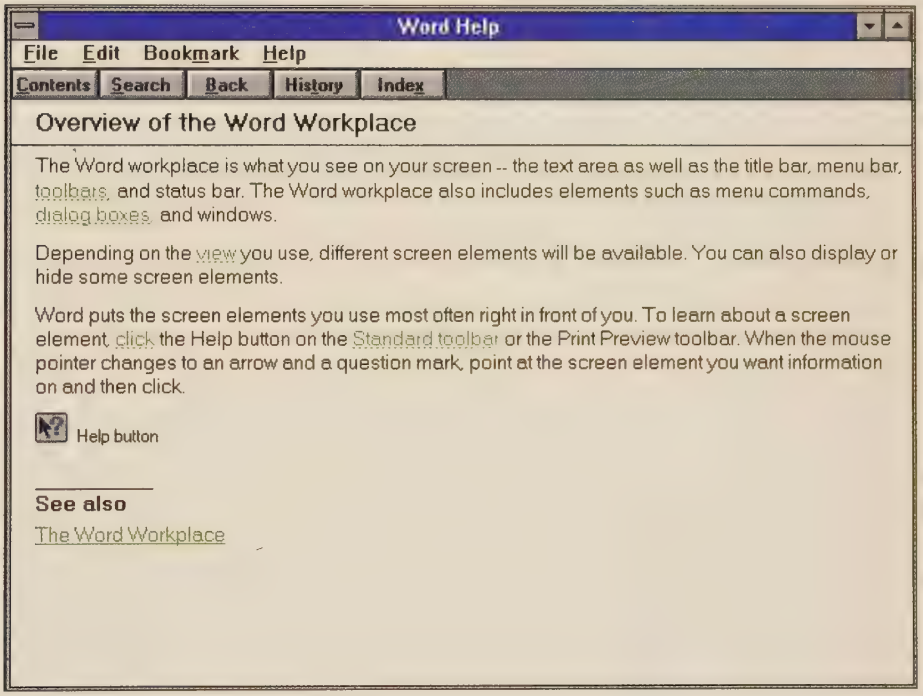
18. Choose Overview to get a general idea of what this section covers.

    This is a description of the Word workplace, as shown in Figure 1-20. Notice that within this description, some of the words are printed in green text and underlined with a dotted line. This means you can get a definition of the indicated term. Other phrases are printed with a solid green underline. These are related topics you can jump to.

Let's look up the definition of the word *toolbars*.

19. Click on *toolbars*, the first word underlined with a dotted line.

    A screen containing a definition for this term appears on top of the Word Help screen, as shown in Figure 1-21. Notice that words with a dotted underline do not change the contents of the Word Help screen, but instead display a simple definition of the underlined word.



Overview of the Word Workplace

The Word workplace is what you see on your screen -- the text area as well as the title bar, menu bar, toolbars, and status bar. The Word workplace also includes elements such as menu commands, dialog boxes, and windows.

Depending on the view you use, different screen elements will be available. You can also display or hide some screen elements.

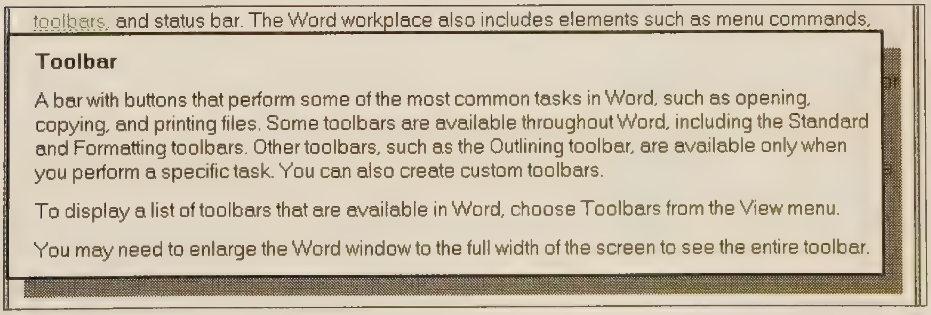
Word puts the screen elements you use most often right in front of you. To learn about a screen element, click the Help button on the Standard toolbar or the Print Preview toolbar. When the mouse pointer changes to an arrow and a question mark, point at the screen element you want information on and then click.

See also

The Word Workplace

FIGURE 1-20

Once you reach one of the descriptions within the on-line help system, you can click on any of the words with a dotted green underline to see a brief definition, or press on a phrase with a solid underline to jump to a related topic.



toolbars, and status bar. The Word workplace also includes elements such as menu commands,

Toolbar

A bar with buttons that perform some of the most common tasks in Word, such as opening, copying, and printing files. Some toolbars are available throughout Word, including the Standard and Formatting toolbars. Other toolbars, such as the Outlining toolbar, are available only when you perform a specific task. You can also create custom toolbars.

To display a list of toolbars that are available in Word, choose Toolbars from the View menu.

You may need to enlarge the Word window to the full width of the screen to see the entire toolbar.

FIGURE 1-21

In Word's on-line help feature, you can click on any word with a dotted underline to display a definition of that term.

20. Click the left mouse button again to hide the definition and return to the Help window.
21. You are ready to end your tour of the Menu bar by exiting from this Word Help screen. Double-click on the Control menu box in the upper-left corner of the Help window.

    The Help screen closes and the Word application screen appears again at the front of your desktop.

WORKING WITH TOOLBARS

Below the Menu bar is Word's Standard toolbar which is shown in Figure 1-22. Word provides this toolbar as a graphical shortcut to many of its most frequently used commands, such as opening a file or undoing an action. Although you can access these commands by choosing the command from within one of the menus, using the buttons in the toolbar as a shortcut is often more convenient.

The commands shown in Table 1-2 are available on the Standard toolbar.

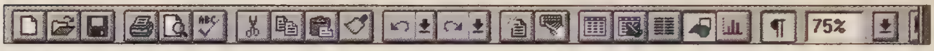


FIGURE 1-22
The Standard toolbar provides quick access to many of the most frequently used Word commands.

TABLE 1-2: WORD'S STANDARD TOOLBAR

TOOLBAR BUTTONS	DESCRIPTION
New	Create a new document.
Open	Open a document you have already created and saved.
Save	Save a document to a file on disk.
Print	Print a document on your printer.
Print Preview	Preview how your document will look on the printed page.
Spelling	Check the spelling in your document.
Cut	Remove a piece of text or other element from your document and place it on the Clipboard—a temporary storage place for information used by all Windows applications.

TOOLBAR BUTTONS	DESCRIPTION
Copy	Copy a piece of text or other element from your document and place this copy on the Clipboard.
Paste	Paste an element from the Clipboard into the current location in your document.
Format Painter	Copy the formatting, or text appearance, from one block of text to another.
Undo	Undo the actions which changed your document.
Redo	Redo an undo.
AutoFormat	Have Word automatically format, or change the appearance, of the text within your document to give it a smoother, more professional appearance.
Insert Auto Text	Create or insert Auto Text—allowing you to quickly insert frequently repeated items into your document by storing them and then inserting them whenever needed.
Insert Table	Insert a table into your document.
Insert Microsoft Excel	Insert a Microsoft Excel worksheet into your Worksheet document.
Columns	Break the text into several columns.
Drawing	Use the drawing tools to create a drawing within your document.
Insert Chart	Insert a chart into your document.
Show/Hide	Display or hide all the nonprinting characters in your document, such as the end-of-paragraph markers or tab characters.
Zoom Control	Increase or decrease the size of the displayed document.
Help	Ask for help on any topic.

Let's try using one of these buttons now.

CHOOSE A BUTTON FROM THE TOOLBAR

1. Move your mouse pointer over the second button from the left in the Standard toolbar.

   If you leave your mouse pointer over a button for a period of time, Word displays the meaning of the button you are pointing to just *under the arrow pointer. In this case, notice that the word* Open *appears under the pointer, as shown in Figure 1-23. At the bottom of the window, in the Status bar, you can read more information about the icon's function, as shown in Figure 1-24.*

2. Click on the Open button to choose this command from the Standard toolbar.

   The Open dialog box displays on screen, as shown in Figure 1-25.

Like Open dialog boxes in other Windows applications, this dialog box allows you to specify the drive, directory, and file that you want to open. First, you will want to locate the appropriate directory. The file you want to open is located in the directory WORDCBT.

3. Scroll down the list of available directories, and double-click on the directory WORDCBT to list the files available in this directory.

   Word displays the files in this directory on screen. You will be opening a sample file, NEWDEMO.DOC, provided with Word for Windows.

4. Highlight the file NEWDEMO.DOC and choose the OK button to open this file.

   The file NEWDEMO.DOC displays on screen, as shown in Figure 1-26.

FIGURE 1-23

Positioning the pointer over any of the buttons in the toolbar soon displays the name of the button.

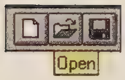
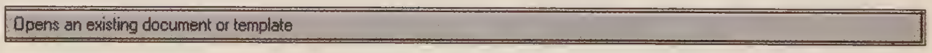


FIGURE 1-24

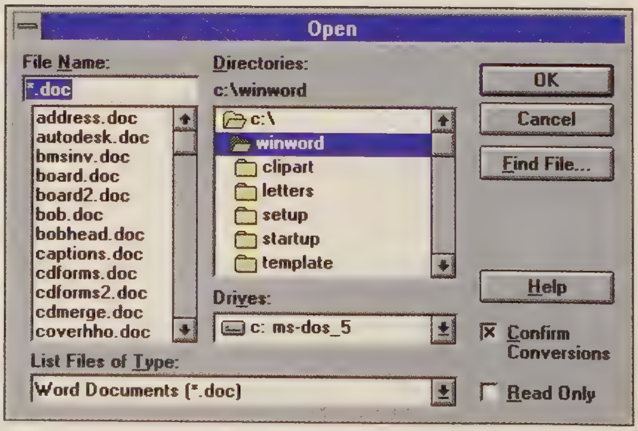
When you place your mouse pointer over any of the buttons in the toolbar, Word describes the purpose of the button in the Status bar.



Opens an existing document or template

FIGURE 1-25

When you choose the Open button from the Standard toolbar, the Open dialog box displays. This dialog box allows you to open a document from a file on disk.



File Name: *.doc

Directories: c:\winword

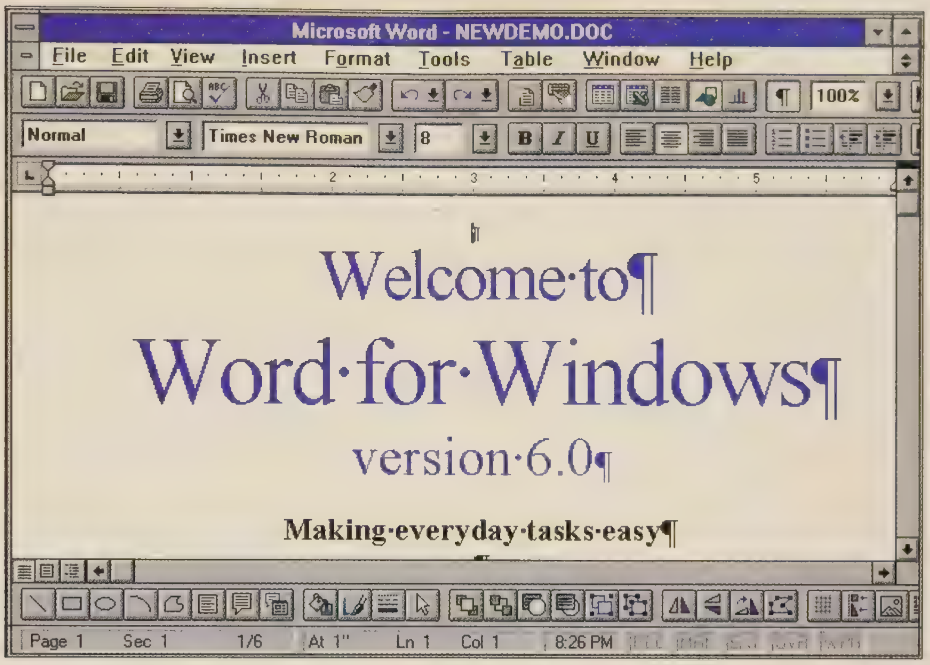
Drives: c: ms-dos_5

List Files of Type: Word Documents (*.doc)

☒ Confirm Conversions

☐ Read Only

FIGURE 1-26
You will be using this document—one of the many sample files provided with Word for Windows—to become more comfortable with Word's controls.



Welcome·to¶

Word·for·Windows¶

version·6.0¶

Making·everyday·tasks·easy¶

Word uses this sample document to display some of Word's capabilities. You will be using this document to practice a few of Word's most basic operations. Leave NEWDEMO.DOC on your screen while you read the next section on scrolling through a document.

SCROLLING THROUGH A DOCUMENT

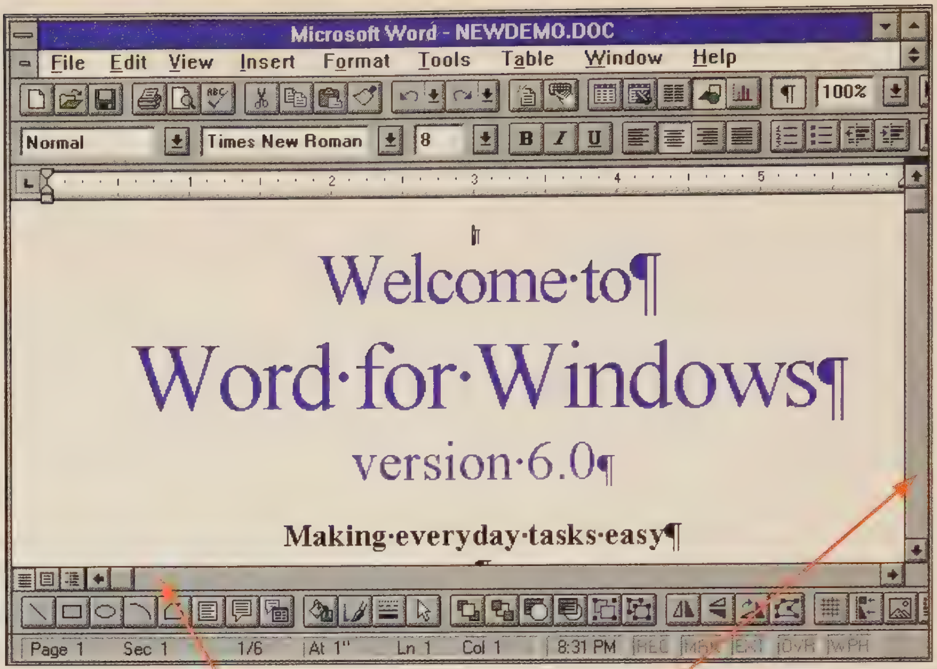
Most of your documents will contain more text than you can see at once. As you work through your document, you can easily **scroll** through it to bring the hidden portions into view.

In order to scroll through the hidden portions of your document, all Windows applications, such as Word for Windows, include **scroll bars** on the bottom and right side of the application window, as shown in Figure 1-27. The **horizontal scroll bar**, located at the bottom of the application window, allows you to scroll the document horizontally, so you can see the full width of the page. The **vertical scroll bar**, located at the right side of the application window, allows you to scroll the document vertically, so you can move through the pages within the document.

Scroll bars like those shown in Figure 1-28 have **scroll arrows** on either side that you use to scroll the image slightly in the indicated direction. Within the scroll bar is a **scroll box** that allows you to move quickly to any location within the display area by dragging the scroll box to where you want to move. When you first open a document, the scroll box on the vertical scroll bar is at the top of the scroll bar, indicating that you are at the top of the document. Likewise, the scroll box on the horizontal scroll bar is

FIGURE 1-27

Word for Windows, like other Windows applications, has two scroll bars on the application window. The vertical scroll bar allows you to scroll vertically through the document, and the horizontal scroll bar allows you to scroll horizontally through a document.



Welcome·to¶

Word·for·Windows¶

version·6.0¶

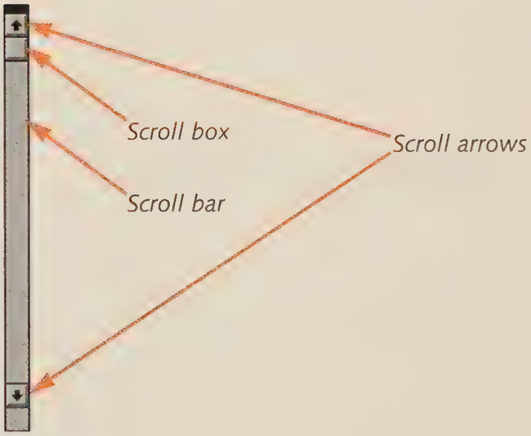
Making·everyday·tasks·easy¶

Horizontal scroll bar

Vertical scroll bar

FIGURE 1-28

The scroll bars allow you to move quickly around your document by clicking on the scroll arrows or the scroll bar, or by dragging the scroll box.



at the left-hand side of the scroll bar, indicating that you are at the left-hand side of the document. If you wanted to move to the middle of the document, you would drag the vertical scroll box to the middle of the vertical scroll bar. Likewise, if you wanted to move to the center of the display area on a page, you would drag the scroll box on the horizontal scroll bar to the center of the horizontal scroll bar. In the next lesson, you will practice using the scroll bar by moving around within the sample document on your screen.

SCROLL THROUGH A DOCUMENT

1. You should still have the document NEWDEMO open within your Word application window. You are going to practice scrolling by

moving around within this document. Click once on the right scroll arrow at the bottom of the window.

The window contents scroll slightly, revealing the contents to the right.

2. Hold down the right scroll arrow until the scroll box moves all the way to the right.

   Notice that holding down the scroll arrow moves the window continuously in the indicated direction. If the scroll box is at the right-hand side of the vertical scroll bar, this indicates that you have moved all the way to the far right edge of the page.

3. Scroll the window back towards the left by clicking on the scroll bar to the left side of the scroll box.

   Clicking on the scroll bar moves the scroll box in the direction you clicked in the bar. For example, if you click to the left of the scroll box, it scrolls the window to the left. If you click to the right of the scroll box, it scrolls the window to the right.

Notice that clicking on the scroll bar moves you a greater distance than clicking on the scroll arrows. Generally, clicking on the scroll bar moves you a full screenful in the indicated direction. In this case, since you clicked to the left of the scroll box, the window scrolls a screenful to the left.

4. You can quickly scroll back to your original position by dragging the scroll box on the horizontal scroll bar all the way to the left.

5. You can also scroll through the length of the document by using the vertical scroll bar. Drag the scroll box on the vertical scroll bar down to the bottom of the bar.

   Notice that the Status bar, at the bottom of the Word application window, indicates that you are on page 6 of your document. This is the last page of the document.

6. Scroll back to the top of the document by repeatedly clicking above the vertical scroll box until you return to the top of the document.

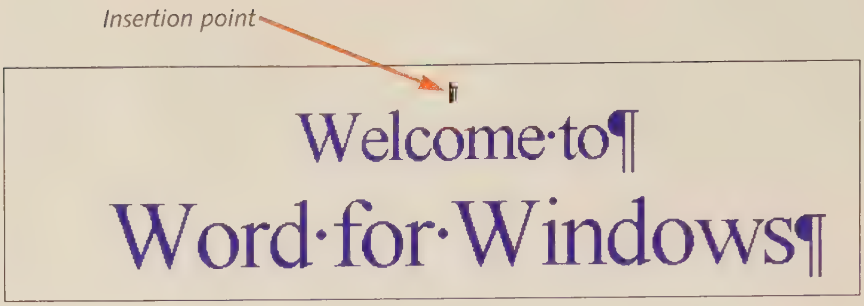
   Notice that the scroll box is again at the top of the vertical scroll bar.

Leave this document, NEWDEMO, open as you practice moving through the text in the next exercise.

MOVING THROUGH TEXT

Scrolling through the document allows you to look at different parts of your document. However, it does not determine where the text you type will appear. This is determined by where the **insertion point**, a blinking vertical bar, appears within the document. This insertion point can be seen in Figure 1-29.

You can position the insertion point anywhere within the text using either your mouse or the keyboard. In the following exercise, you will practice moving the insertion point through your document until you feel comfortable with all the commands.



Welcome·to¶

Word·for·Windows¶

FIGURE 1-29
The insertion point, shown as a vertical bar at the top of this screen, indicates where text you enter will appear.

MOVE THROUGH TEXT USING THE MOUSE POINTER

1. You can easily and quickly move the insertion point using the mouse. Try moving the mouse pointer over the text that is visible on the screen.

   As you move the mouse pointer over the text within your document, notice that it takes the shape of the capital letter I. *This is called the* ***I-beam pointer****. When you have the I-beam pointer positioned where you want to put your insertion point, clicking the mouse button moves the insertion point to the I-beam's location.*

2. Move the I-beam pointer to the end of the second paragraph and click to place the insertion point at the end of this paragraph.

   The insertion point appears at the end of the second paragraph.

3. Now move the I-beam pointer before the first letter on the first line and click to place the insertion point at the very start of your document.

   The insertion point is now moved to the start of your document.

MOVE THROUGH TEXT USING THE KEYBOARD

In the next few steps, you will learn the keyboard methods for moving the insertion point around your document. As you become more familiar with Word, you may find that moving by using the keyboard is more convenient, because then you don't have to take your hands off the keyboard as you type. On the other hand, many people prefer using the mouse because then they don't have to memorize a lot of different commands. Just use whichever method you find most comfortable.

The keyboard movement commands are all grouped around the arrow keys on your keyboard. If you have a keyboard where the arrow keys are shared with the numeric keypad, you will need to make sure that Num Lock is not selected. If it is selected, a light will appear below the Num Lock indicator on your keyboard. When Num Lock is turned on, pressing these keys inserts a number into your document rather than moving the insertion point around.

The keyboard movement keys are very intuitive. Pressing any of the arrow keys moves the insertion point in the indicated direction; pressing Page Up or Page Down moves the insertion point up or down a page; and pressing Home or End moves the insertion point to the start or end of a line. To move a greater distance in the indicated direction, hold down Ctrl while pressing one of these movement keys. For example, pressing ← moves the insertion point one character to the left, while pressing Ctrl+← moves the insertion point one word to the left.

Let's practice using some of these movement commands now.

1. Press ↓.

   The insertion point moves down one line.

2. Press End.

   Notice that the insertion point moves to the end of the line.

3. Press ↓ repeatedly until the insertion point is at the end of the first page.

4. Press Page Down until you reach the end of the document.

   Notice that as you move the insertion point through your document, the ***Status bar*** *at the bottom of the window indicates your current location in the document, as shown in Figure 1-30. The first number lists the page, the second lists the* ***section*** *(or the part of a multipart document), and the third lists the current page over the total number of pages in the document.*

For example, on the last page of this document, the Status bar lists "Page 6 Sec 1 6/6," meaning that you are on the sixth page in the first section, and that you are on page 6 out of 6 total pages. The second group of numbers in the Status bar lists your location within the current page. The first number indicates the number of inches from the top of the page to the current location. The second lists the number of lines down the page, and the last lists the column where your insertion point is. This Status bar also indicates the current time and whether certain special actions (such as the overtype mode that allows you to replace text instead of inserting it) are on or off. Finally, the Status bar displays any important messages from Word while you are working.

5. Now try combining the movement commands with Ctrl. Press Ctrl+Home to move the insertion point back to the start of the document.

6. Press Ctrl+→ to start moving to the right one word at a time.

7. Press Ctrl+↓ to move down the page one paragraph at a time.

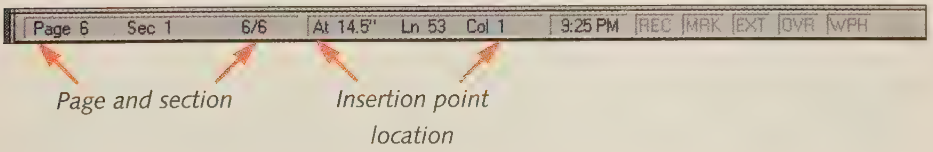


FIGURE 1-30
The Status bar indicates your current position within the document.

This should give you a fairly good feel for how to move comfortably around your document.

Table 1-3 lists the many ways you can move the insertion point using the keyboard. Practice a few of them now, but don't worry about trying to memorize them.

When you are finished practicing, leave the sample document open and move on to the next exercise.

TABLE 1-3: KEYBOARD MOVEMENT COMMANDS

TO MOVE	PRESS
One character to the left	←
One character to the right	→
One line up	↑
One line down	↓
One word to the left	Ctrl+←
One word to the right	Ctrl+→
To the end of a line	End
To the beginning of a line	Home
One paragraph up	Ctrl+↑
One paragraph down	Ctrl+↓
Down one window	Page Down
Up one window	Page Up
To the bottom of a window	Ctrl+Page Down
To the top of a window	Ctrl+Page Up
To the end of a document	Ctrl+End
To the start of a document	Ctrl+Home

TYPING TEXT

Now that you have practiced moving around within your document, you are ready to begin adding text. As your first exercise, you will add some text between the first and second paragraphs.

TYPE TEXT

1. Move the insertion point to the start of the first line of type (to the left of the words "Welcome to"). You will be adding some text before this paragraph.

2. Type the following paragraph. If you make any mistakes while you are typing, you can press Bksp to back up and delete any mistyped letters to the left of the insertion point, and then retype the entry correctly. Do not press the carriage return (Enter) when you come to the end of a line. Just continue typing and let Word break the sentences for you.

   This is a sample sentence of text. If you haven't used a computer keyboard much before, you will notice that it is very much like a typewriter.

   Notice that as you type, the text automatically wraps to the next line when you reach the right margin. This is known as ***word wrap****. Because Word uses word wrap to determine the end of the line, you can easily adjust the size of the page and Word will reformat the lines of text automatically to fit correctly on the page.*

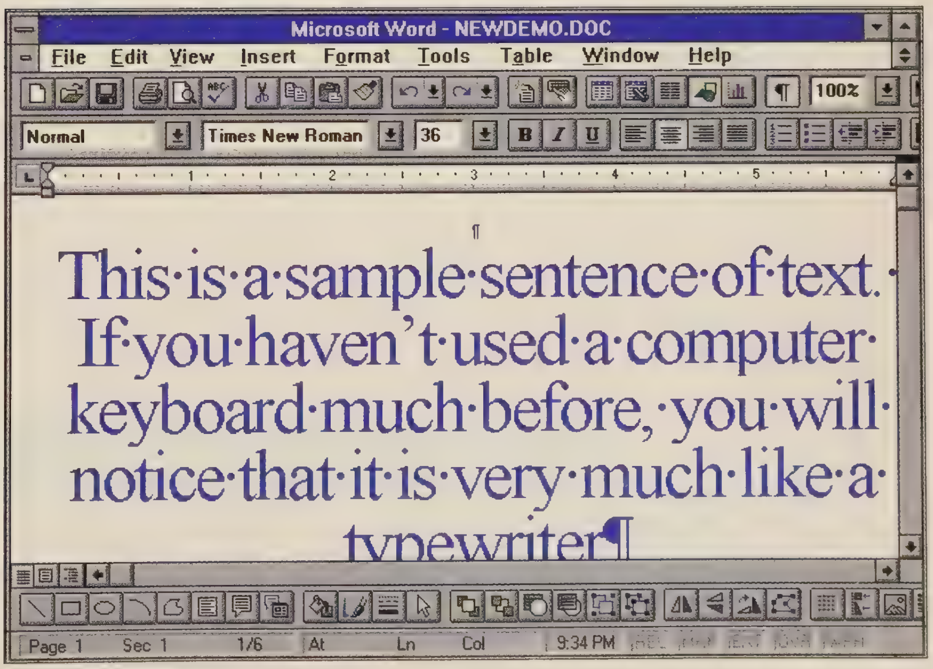
3. Press Enter to start a new paragraph, and then type the following.

   Here is another sample paragraph. As you start to get a feel for using the computer, you can begin to relax and notice how your words appear on screen.

4. Press Enter at the end of this paragraph to separate it from the paragraph that follows it.

5. Now that you have finished entering text into your document you need to learn a few more of Word's basic functions. Scroll back to the top of the document so you can see all of the text you have just entered. Your completed document should look like the one shown in Figure 1-31, although you cannot see all of the document within the application window.

FIGURE 1-31
After you have finished entering text into your first sample document, it should look like this.


Microsoft Word - NEWDEMO.DOC
File Edit View Insert Format Tools Table Window Help
100%
Normal
Times New Roman
36
B I U
1 2 3 4 5
Page 1 Sec 1 1/6 At Ln Col 9:34 PM

¶
This·is·a·sample·sentence·of·text.·
If·you·haven't·used·a·computer·
keyboard·much·before,·you·will·
notice·that·it·is·very·much·like·a·
typewriter.¶

SELECTING TEXT

So far, you have learned how to move around your document and how to type text. Next, you need to know how to make changes in your document. Whether you want to delete a word or change the appearance of a paragraph, before you can change anything within your document you must first tell Word what you want to change by **selecting** it. You can select any element within your document using either the mouse or the keyboard. In this exercise, you will learn all of the available methods of selecting elements within your document.

SELECT TEXT

1. Move the insertion point before the first word in the document, either by using the keyboard commands in Table 1-3, or by clicking the mouse before this word.

   You can easily select any text item by ***dragging*** *across it, that is, by holding down the mouse button while you move the mouse pointer across the text block you want to select, and then releasing the mouse button.*

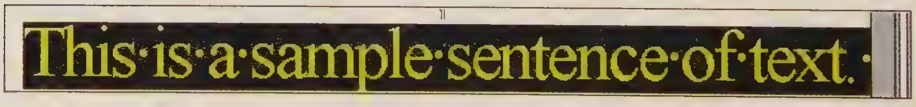
2. You will try this by selecting the first line of text. Drag across the first line of text by holding down the left mouse button and moving the mouse pointer horizontally to the end of the first line.

   As you drag across the text, a black bar (called ***highlighting****) displays around the selected text and the text appears as white characters across this black background, as shown in Figure 1-32.*

3. When you have finished highlighting the first line, release the mouse button to indicate to Word that you have finished highlighting.

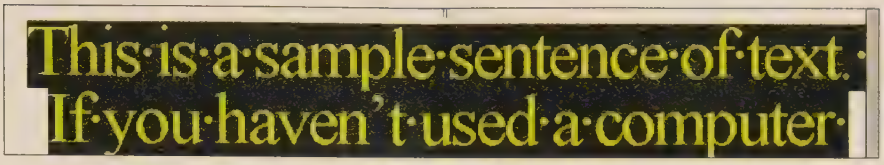
4. Once you have highlighted text, you can extend the highlight to additional text. Try this now. Select the next line of text by moving the pointer to the end of the next line without pressing the mouse button. Then, hold down Shift and then click the mouse button.

   Notice that the highlighting extends to the second line of text, as shown in Figure 1-33.



This·is·a·sample·sentence·of·text.·

FIGURE 1-32
Selecting a block of text causes Word to highlight the text on screen. Notice the dark area around the selected text, and the appearance of the text being highlighted.



This·is·a·sample·sentence·of·text.·
If·you·haven't·used·a·computer·

FIGURE 1-33
You can easily extend your selection to the next line of text by moving the mouse pointer to the end of that line, then holding down Shift *while you click the left mouse button.*

You can also use Shift to highlight any text between the insertion point and the mouse pointer.

5. To remove the highlighting from around any block of text, click on any text outside of the selected text block. Do this now to remove the highlighting from around the block of text you just selected. This is sometimes called **deselecting** the text.

   When you are highlighting complete lines of text, using the ***selection bar*** *is sometimes easier. This is an unmarked area on the left side of the text area. Dragging down through this area of the page highlights multiple lines of text.*

6. Move the pointer towards the left of the text area until it changes to a right-facing arrow. This change in the mouse pointer indicates that you are within the selection bar. To select the first line of text, click within this selection bar to the left of the first line of text.

   Notice that this highlights an entire line of text.

7. You can also easily select a single word by double-clicking on it. Try this now. Move the I-beam pointer over the first word in the second paragraph, and double-click to select the first word.

   The first word of the paragraph is highlighted.

You can also use the keyboard to select text by holding down Shift while pressing any of the movement keyboard shortcuts described in Table 1-3. Try this now.

8. With the first word in the sentence highlighted, hold down Shift while pressing →.

   Notice that this extends the highlighting one character to the right.

9. Now try highlighting a word at a time by pressing Shift+Ctrl+→.

   As you can see, there are many ways to select blocks of text. As you become more familiar with Word, you will discover the easiest ways for you.

Tables 1-4 and 1-5 list the many ways you can select text. Practice a few of them now, but don't worry about trying to memorize them.

TABLE 1-4: MOUSE TEXT SELECTION COMMANDS

TO SELECT	ACTION
Any text	Drag across the text you want to select.
To extend selection	Press Shift and click to extend the selection in the indicated direction.
A word	Double-click on the word.
A line	Click in the selection bar to the left of the line.
Multiple lines	Drag in the selection bar to the left of the lines.
A sentence	Hold down Ctrl and click anywhere in the sentence
A paragraph	Double-click in the selection bar next to the paragraph.
Multiple paragraphs	Double-click and drag in the selection bar.
The document	Hold down Ctrl and click the selection bar.

TABLE 1-5: KEYBOARD TEXT SELECTION COMMANDS

TO MOVE	PRESS
One character to the left	Shift+←
One character to the right	Shift+→
One line up	Shift+↑
One line down	Shift+↓
One word to the left	Shift+Ctrl+←
One word to the right	Shift+Ctrl+→
To the end of a line	Shift+End
To the beginning of a line	Shift+Home
One paragraph up	Shift+Ctrl+↑
One paragraph down	Shift+Ctrl+↓
Down one window	Shift+Page Down
Up one window	Shift+Page Up
To the bottom of a window	Ctrl+Page Down
To the top of a window	Shift+Ctrl+Page Up
To the end of a document	Shift+Ctrl+End
To the start of a document	Shift+Ctrl+Home

CLOSING A DOCUMENT

You are now ready to close the sample document you have been using.

CLOSE A DOCUMENT

1. Choose Close from the File menu.

   When you close a document, Word asks if you want to save any changes you have made to the file by displaying the dialog box shown in Figure 1-34. Generally, you will respond Yes to this question so that any of your editing changes will be incorporated into the document you are using. However, since you haven't made any changes you want to save in this case, you are going to tell Word to discard your changes and leave the file as it was.

2. Choose No to tell Word to discard your changes.

   The document NEWDEMO disappears from your application window.

Notice that the menu bar now includes only two menu items: File and Help. This is because there is no current document to edit.

Now you are ready to open a new document.

3. Choose Open from the File menu.

   The Open dialog box displays.

You are going to open a document on your Student Data Disk.

4. Locate your Student Data Disk and place it in drive A.
5. In the Open dialog box, set the Drive indicator to drive A.

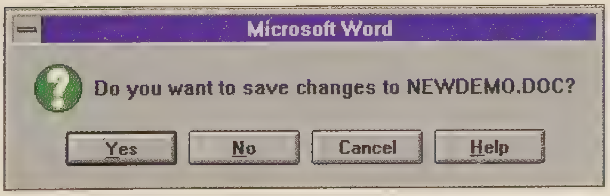
   Word searches through the contents of the Student Data Disk in drive A and displays the list of files available on this disk.

6. Choose the file BRAMPTON from the list of file names.
7. Choose OK in the Open dialog box.

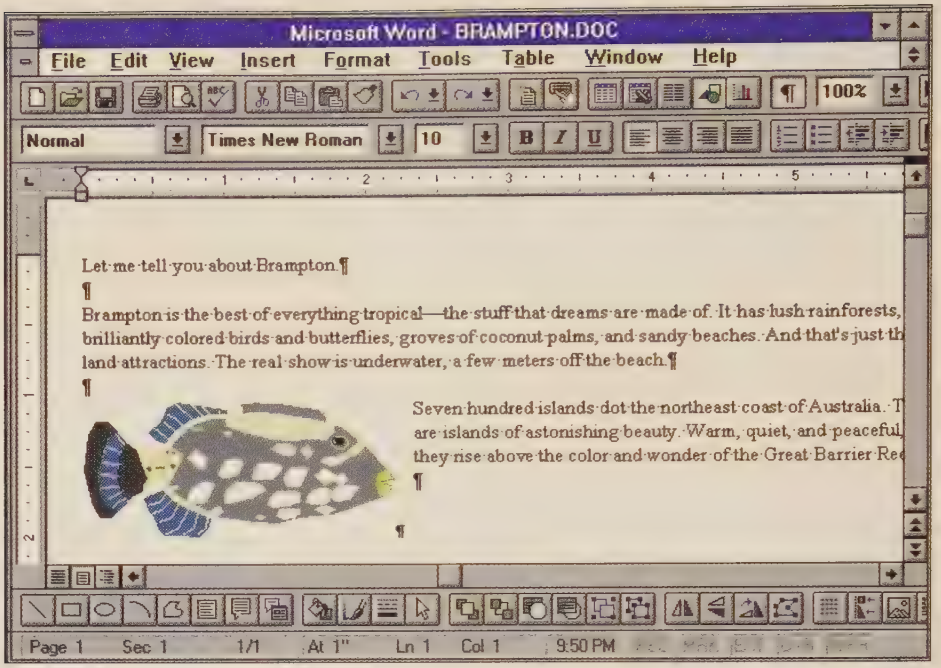
   The file BRAMPTON appears within your application window, as shown in Figure 1-35

FIGURE 1-34

Before closing your document, Word asks you whether you want to save your changes. In this case, you will select No to discard your editing of the file NEWDEMO.


Microsoft Word

Do you want to save changes to NEWDEMO.DOC?



Let me tell you about Brampton.¶

¶

Brampton is the best of everything tropical—the stuff that dreams are made of. It has lush rainforests, brilliantly colored birds and butterflies, groves of coconut palms, and sandy beaches. And that's just th land attractions. The real show is underwater, a few meters off the beach.¶

¶

Seven hundred islands dot the northeast coast of Australia. T are islands of astonishing beauty. Warm, quiet, and peaceful, they rise above the color and wonder of the Great Barrier Re

¶

¶

FIGURE 1-35

Your second sample document, BRAMPTON, should look like this example when you open the document.

USING SIMPLE FORMATTING COMMANDS

You are now ready to practice using a few simple commands to change your document's appearance.

Changing the appearance of text within your document is called **formatting**. There are two different types of text formatting commands. **Character formatting** changes the appearance of a character or group of characters. Examples of character formatting are changing the font, size, or style of a character. **Paragraph formatting** changes the appearance of an entire paragraph. Examples of paragraph formatting are paragraph indentation or alignment. Note that while character formatting can be used to change the appearance of an entire paragraph, paragraph formatting cannot be used to change the appearance of a single character.

The most common formatting commands are contained in the Formatting toolbar, directly below Word's Standard toolbar, as shown in Figure 1-36.

See Table 1-6 for a list of the controls contained within the Formatting toolbar.

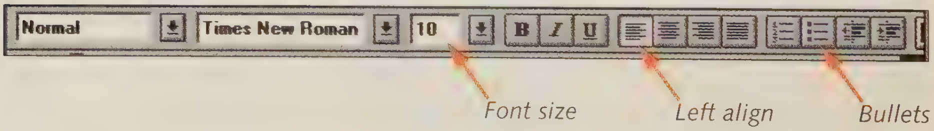
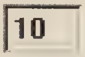
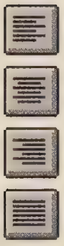
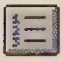
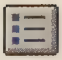
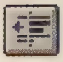
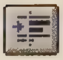


FIGURE 1-36

The Formatting toolbar allows you one-step access to Word's most frequently used formatting commands.

TABLE 1-6: WORD'S FORMATTING TOOLBAR

	TOOLBAR BUTTON	DESCRIPTION
	Style	Indicates the current text **style** (or group of formatting commands) and allows you to select another style.
	Font	Indicates the current text **font** (or typeface) and allows you to select another font.
	Font Size	Indicates the current text size and allows you to select another size.
	Bold	Indicates whether the text is bold. The button is depressed if the text is bold and raised if it is not.
	Italic	Indicates whether the text is italic. The button is depressed if the text is italic and raised if it is not.
	Underline	Indicates whether the text is underlined. The button is depressed if the text is underlined and raised if it is not.
	Alignment	Indicates the current **alignment** (or how the lines within the paragraph line up). The button choices are Align Left, Center, Align Right, and Justify, with the button for the current selection depressed.
	Numbering	Indicates whether the lines are numbered. The button is depressed if the text is numbered and raised if it is not.
	Bullets	Indicates whether the lines are bulleted. The button is depressed if the text is bulleted and raised if it is not.
	Decrease Indent	Moves the entire paragraph to the left.
	Increase Indent	Moves the entire paragraph to the right.

You will be using a few of these controls now to change the appearance of text in your document.

USE SIMPLE FORMATTING COMMANDS

You are going to start by using one of the paragraph formatting commands. Note that when you want to change paragraph formatting, you only need to place the insertion point within the paragraph you want to change. You don't need to select the entire paragraph.

1. To change the paragraph formatting of the first line of text, position the insertion point within the first line of text.

   Notice that this paragraph is currently aligned against the left page margin. If you look at the ruler (directly above your text on screen), you will notice that the first line of text is aligned with the marks on the ruler. These marks indicate the indents for the current paragraph.

2. Let's align this paragraph with the center of the page. Choose the Center button from the toolbar.

   Notice that the text is now aligned in the center of the page.

For your next step, you will change the appearance of text within the paragraph. Note that when you want to change the appearance of an entire paragraph, you need only place your insertion point in the paragraph to change, but when you want to change the appearance of words or characters within the paragraph, you must first highlight the characters you want to change.

3. You are going to change the character formatting of the first two words in the first paragraph. To do this, highlight the first two words in the first paragraph.

4. Now, you want to use the bold type style to make these words stand out on the page. To do this, choose the Bold button from the Formatting toolbar.

   Notice that the highlighted words now appear in bold type.

5. Finally, you are going to increase the size of these two words by choosing a larger font size from the Font Size drop-down list. To do this, display the Font Size drop-down list by clicking on the arrow to the right of the current font size. Choose 20 from this list by clicking on it.

   Notice that the size of the highlighted text is now greatly increased.

   Your text on screen should now look like that shown in Figure 1-37.

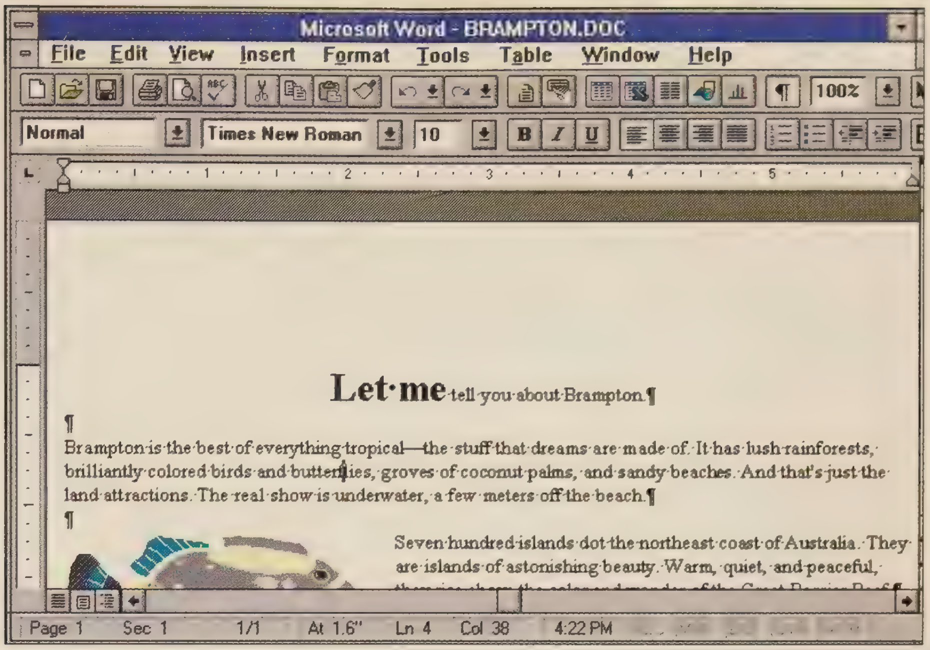
Now you are ready now for the final steps—saving your document to a file and disk, and then printing the finished document.

SAVING THE DOCUMENT

You've gotten the BRAMPTON document to look the way you want. Now it's time to save this document so you can use it again. When you save a document for the first time, Word creates a file on disk to store the document, using the name and directory that you provide. Then, each time you want to work with that document, you tell Word which directory to look in and which file to search for, and Word retrieves the specified document.

While you are working with a document, you should frequently save your changes to a file on disk. This way, if a hardware problem occurs, or if you decide to go back to the unedited document, you can always retrieve the previous version from the file on disk.

FIGURE 1-37
When you have finished changing the appearance of your sample document, it should look like the following sample.


Microsoft Word - BRAMPTON.DOC
File Edit View Insert Format Tools Table Window Help
100%
Normal
Times New Roman
10
B I U
Page 1 Sec 1 1/1 At 1.6" Ln 4 Col 38 4:22 PM

Let me tell you about Brampton.¶

¶

Brampton is the best of everything tropical—the stuff that dreams are made of. It has lush rainforests, brilliantly colored birds and butterflies, groves of coconut palms, and sandy beaches. And that's just the land attractions. The real show is underwater, a few meters off the beach.¶

¶

Seven hundred islands dot the northeast coast of Australia. They are islands of astonishing beauty. Warm, quiet, and peaceful,

The first time you save a document, Word prompts you to name the document and provide other optional information about it by presenting you with the Save As dialog box. This dialog box prompts you to provide information essential to saving a file. You can also use the Save As dialog box to rename an existing file, or save it to a new directory. That is what we are going to do in this case.

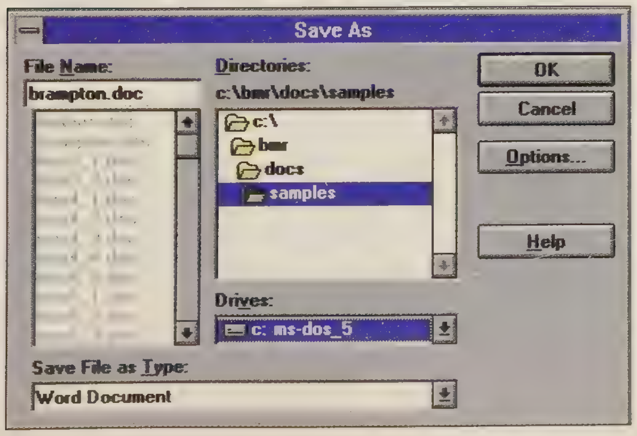
SAVE THE DOCUMENT

1. Choose Save As from the File menu.

   The Save As dialog box appears, as shown in Figure 1-38.

2. You are going to rename the BRAMPTON file. To do this, type lesson1 in the File Name box.

FIGURE 1-38
The Save As dialog box allows you to choose a name and location for your documents.



File Name: brampton.doc

Directories: c:\bmr\docs\samples

Drives: c: ms-dos_5

Save File as Type: Word Document

*When you create your own file name, remember that it can be no longer than eight characters and may not include a space, a comma, a period, or any of the following characters: * ? [ ] = \ /: | < or >.*

3. Choose OK.

   Word automatically adds the extension .doc to your file name and places the file back on the Student Data Disk in drive A.

PRINTING THE DOCUMENT

You are finally ready to see your finished product. Printing a document is a very simple task in Word, as you'll soon see.

PRINT THE DOCUMENT

1. First, be sure your printer is turned on and ready to print your document.
2. Choose Print from the File menu.

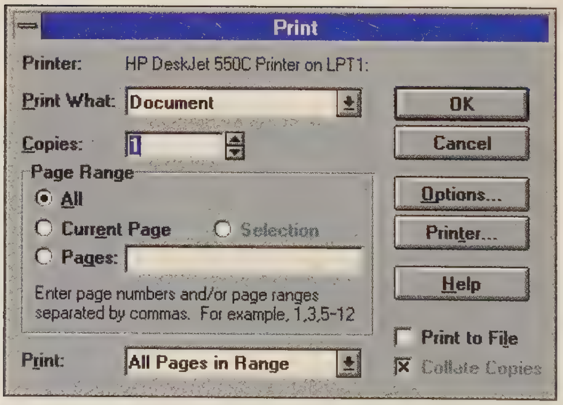
   The Print dialog box displays, as shown in Figure 1-39.

By default, this dialog box will print all of the pages in the current document.

3. Since this is exactly what you want to do, choose OK.

   Word displays a message box telling you that it is now printing the document LESSON1.

As Word continues printing, another message box appears telling you exactly how many pages you've printed. Finally, your finished document appears on the printer, and the message boxes disappear from your screen.



Printer: HP DeskJet 550C Printer on LPT1:

Print What: Document

Copies: 1

Page Range
- ● All
- ○ Current Page ○ Selection
- ○ Pages:

Enter page numbers and/or page ranges separated by commas. For example, 1,3,5-12

Print: All Pages in Range

☐ Print to File

☒ Collate Copies

FIGURE 1-39
The Print dialog box allows you to print a copy of your document.

QUITTING WORD

You are ready to end this lesson, exiting Word and returning to the Windows desktop.

QUIT WORD

1. From the File menu, choose the Exit command.

   Word asks you if you want to save your changes. Since you don't need to save these changes, choose No. Word disappears from the screen and returns you to the Windows desktop.

2. Now you have returned to the Windows Desktop.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Start Word	Double-click Word application icon		Microsoft Word
Specify which toolbars to display	Choose View, Toolbar	Alt+v,t	
Display or hide page ruler	Choose View, Ruler	Alt+v,r	
Get on-line help	Choose any of the Help selections	Choose any of the Help selections	?
Open document	Choose File, Open	Alt+f,o *or* Ctrl+o	📂
Scroll slowly in any direction	Click scroll arrows on vertical or horizontal scroll bars		
Scroll screenful in any direction	Click vertical or horizontal scroll bars		
Scroll large distance in any direction	Drag scroll box on vertical or horizontal scroll bar		

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Move insertion point anywhere in text	Click anywhere in text		
Move insertion point one character to left		←	
Move insertion point one character to right		→	
Move insertion point one line up		↑	
Move insertion point one line down		↓	
Move insertion point one word to left		Ctrl+←	
Move insertion point one word to right		Ctrl+→	
Move insertion point to end of line		End	
Move insertion point to beginning of line		Home	
Move insertion point one paragraph up		Ctrl+↑	
Move insertion point one paragraph down		Ctrl+↓	
Move insertion point down one window		Page Down	
Move insertion point up one window		Page Up	
Move insertion point to bottom of window		Ctrl+Page Down	
Move insertion point to top of window		Ctrl+Page Up	
Move insertion point to end of document		Ctrl+End	
Move insertion point to start of document		Ctrl+Home	
Start paragraph		Enter	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select text	Drag across text *or* press Shift to select text from current insertion point to new location		
Deselect text	Click anywhere in document		
Select word	Double-click on word		
Select line	Click in selection bar to left of line		
Select multiple lines	Drag in selection bar to left of lines		
Select sentence	Hold down Ctrl and click anywhere in sentence		
Select paragraph	Double-click in selection bar next to paragraph		
Select multiple paragraphs	Double-click and drag in selection bar		
Select document	Hold down Ctrl and click selection bar		
Select one character to left		Shift+←	
Select one character to right		Shift+→	
Select one line up		Shift+↑	
Select one line down		Shift+↓	
Select one word to left		Shift+Ctrl+←	
Select one word to right		Shift+Ctrl+→	
Select to end of line		Shift+End	
Select to start of line		Shift+Home	
Select one paragraph up		Shift+Ctrl+↑	
Select one paragraph down		Shift+Ctrl+↓	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select down one window		Shift+Page Down	
Select up one window		Shift+Page Up	
Select to bottom of window		Shift+Ctrl+Page Down	
Select to the top of window		Shift+Ctrl+Page Up	
Select to end of document		Shift+Ctrl+End	
Select to start of document		Shift+Ctrl+Home	
Close document	Choose File, Close	Alt+f,c	
Save document	Choose File, Save	Alt+f,s *or* Ctrl+s	💾
Print document	Choose File, Print	Alt+f,p *or* Ctrl+p	🖨
Exit Word	Choose File, Exit	Alt+f,x *or* Ctrl+x	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITION
1. insertion point	a. Flashing vertical bar that indicates where text you type will appear
2. Edit menu	b. Displays application name and current document name
3. highlighting	c. Includes commands to move and copy information within and between Windows applications
4. arrow keys	d. Controls which Word buttons display on screen
5. scroll bars	e. Contains Word's tools, such as spelling checker and mail-merge
6. status bar	f. Area of the Word application window that allows you to move around your document

TERMS	DEFINITION
7. title bar	g. Indicates which element is currently selected in document
8. Toolbars dialog box	h. Keyboard method for moving within document
9. Tools menu	i. Displays messages and current location within document
10. word processor	j. Tool that allows creation of documents—from small letters to complex technical manuals

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which area of the Word application window displays messages?

- **a.** Title bar
- **b.** Status bar
- **c.** Message area
- **d.** Text area

2. The flashing vertical bar on screen indicates:

- **a.** the left page margin
- **b.** the location of the mouse
- **c.** where text you type will appear
- **d.** a hidden text field

3. Which menu is used to save a document?

- **a.** View
- **b.** Insert
- **c.** Format
- **d.** File

4. Which of the following keys does not move the insertion point through text?

- **a.** ↓
- **b.** End
- **c.** Insert
- **d.** Page Up

5. Which command is not available from the Standard toolbar?

- **a.** New
- **b.** Insert Table
- **c.** Print
- **d.** Thesaurus

6. Which menu contains a command that allows you to bring pictures into your document?

- **a.** File
- **b.** Graphics
- **c.** Insert
- **d.** Format

7. Which menu contains commands that allow you to split your application window into two separate parts?

- **a.** Edit
- **b.** View
- **c.** Format
- **d.** Window

8. Which key do you press, in combination with any of the movement keyboard shortcuts, in order to select text?

- **a.** [Alt]
- **b.** [Ctrl]
- **c.** [Shift]
- **d.** [Enter]

9. What formatting button is not found in the Formatting toolbar?

- **a.** Bold
- **b.** Justify
- **c.** Bullets
- **d.** Tabs

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. If the insertion point is at the end of the second line of text, describe two ways in which you could move it to the start of the first line.
2. Describe two ways of selecting a line of text.
3. Describe two ways of moving to the end of your document.
4. On which toolbar would you find the Open button? The Bold button?
5. What is the name of the Word feature which automatically continues lines of text onto the next line?
6. Name one character that cannot be used when naming a file in the Save As dialog box.

APPLICATION PROJECTS

Perform the following actions to complete these projects:

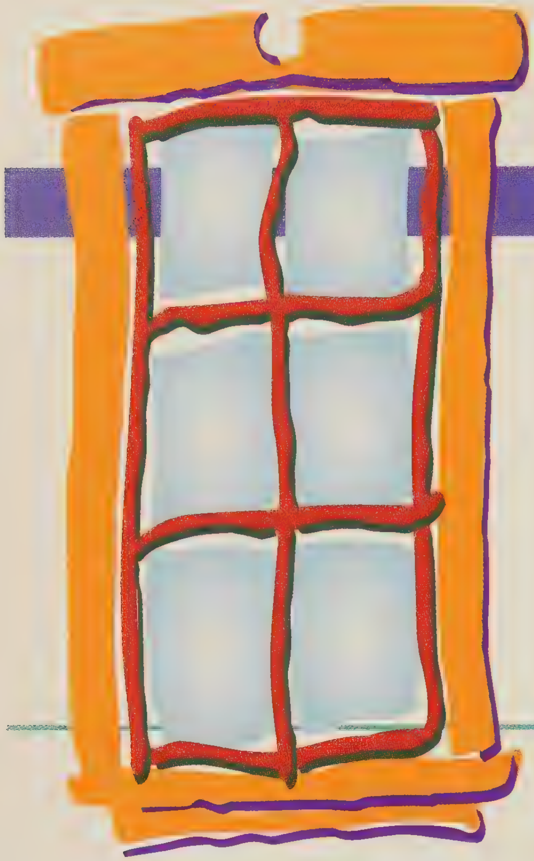
1. Type the following sentence:

   The rain in Spain falls mainly on the plain.

   and then modify it to read:

   The fog in Trog falls mainly in the bog.

2. Word provides extensive on-line help for learning Word for Windows. From the Help menu, choose Quick Preview and follow the instructions on screen.



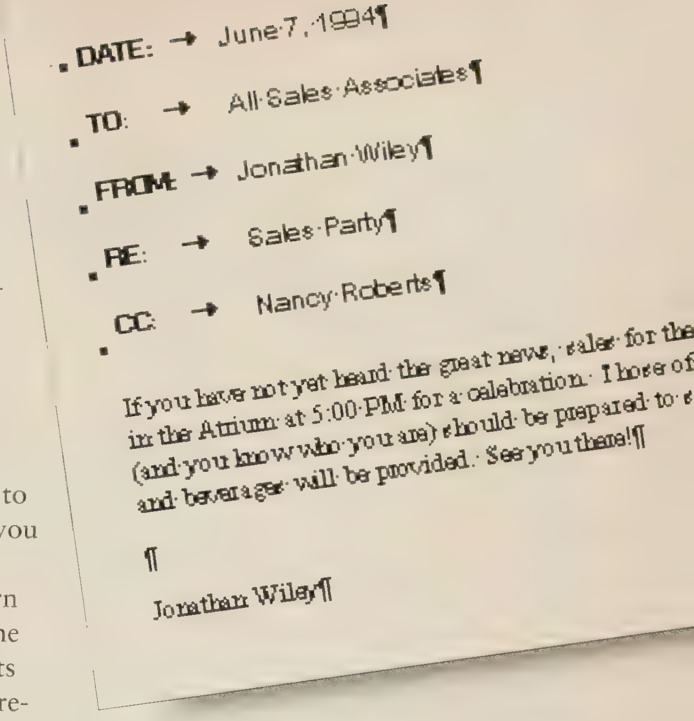
LESSON 2

CREATING AND EDITING

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create a document.*
- *Delete text.*
- *Copy text.*
- *Move text.*
- *Preview the printed page.*



DATE: → June·7,·1994¶

TO: → All·Sales·Associates¶

FROM: → Jonathan·Wiley¶

RE: → Sales·Party¶

CC: → Nancy·Roberts¶

If·you·have·not·yet·heard·the·great·news,·sales·for·the
in·the·Atrium·at·5:00·PM·for·a·celebration.·Those·of
(and·you·know·who·you·are)·should·be·prepared·to
and·beverages·will·be·provided.·See·you·there!¶

¶

Jonathan·Wiley¶

When you start using Word, you will find that you will mostly be creating new documents, such as letter, memos, and reports. As practice for this, in this lesson, you will create a memo. First, we will lead you through the process of selecting a Word template to use to create a memo. Once you have entered text into this memo template, you will learn how to edit the text within the memo until you get the results you want. Finally, you will preview the page before printing it.

USING A TEMPLATE

When you work with Word, you will mostly be creating new documents. The next few exercises will lead you through the process of creating a small document, making some editing changes, saving your file to disk, and printing the finished version.

As you start to use Word more frequently, you may find that you need to create a special kind of document, such as a resumé or a formal business letter. You could create it from scratch, but having a similar document handy to use as a springboard is often faster. This is the function of a template. A **template** is a master copy of a certain type of document that includes the appropriate page setup, text styles, and other formatting needed to create a specific kind of document. You will learn about formatting and styles later in this tutorial, but for now, take a look at some of the templates available to you.

USE A TEMPLATE

1. Before starting this exercise, start up the Word for Windows application (by double-clicking on its application icon).

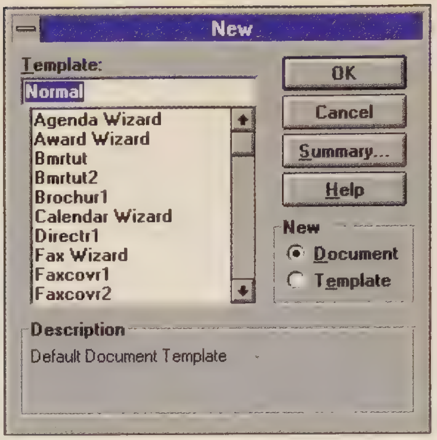
   If you already have Word open and are working in another document, you might want to save it to disk and close the document before beginning this exercise.

2. Word's templates are all available when you create a new document. To look at the available templates, display the File menu and choose New.

   The New dialog box displays, as shown in Figure 2-1. The New dialog

FIGURE 2-1

The New dialog box allows you to select the type of document you want to use as the basis for your new document. The available document styles are listed in the Template scrolling list.



Template: Normal

Agenda Wizard
Award Wizard
Bmrtut
Bmrtut2
Brochur1
Calendar Wizard
Directr1
Fax Wizard
Faxcovr1
Faxcovr2

New
● Document
○ Template

Description
Default Document Template

box allows you to select the type of document you want to use as the basis for your new document. The available document types are listed in the Template scrolling list.

In the Template text box, notice that the Normal template is highlighted. Normal is Word's default template, and most likely the one you will use most often. In fact, it's used so frequently that when you choose the New button from Word's toolbar, Word automatically loads the Normal template for you. This template has page layout and text styles appropriate for most of the generalized documents you need to produce. However, in this exercise you will become familiar with some of the other templates available in Word. All of Word's templates are listed in the scroll box on the left side of the New dialog box. To see what templates are available, slowly scroll down this list.

As you scan through the list of available templates, you won't be able to picture the templates just by reading their names. Therefore, we will look at a couple of templates on the screen, starting with a fax cover sheet template.

3. Scroll down the list until you see Faxcovr1.

   Whenever you see a template followed by a number, it means that Word has several different layouts available for this type of document. In this case, there are two different types of fax cover sheets.

4. You will be looking at the first available fax cover sheet. Highlight Faxcovr1 to select this template and then choose OK.

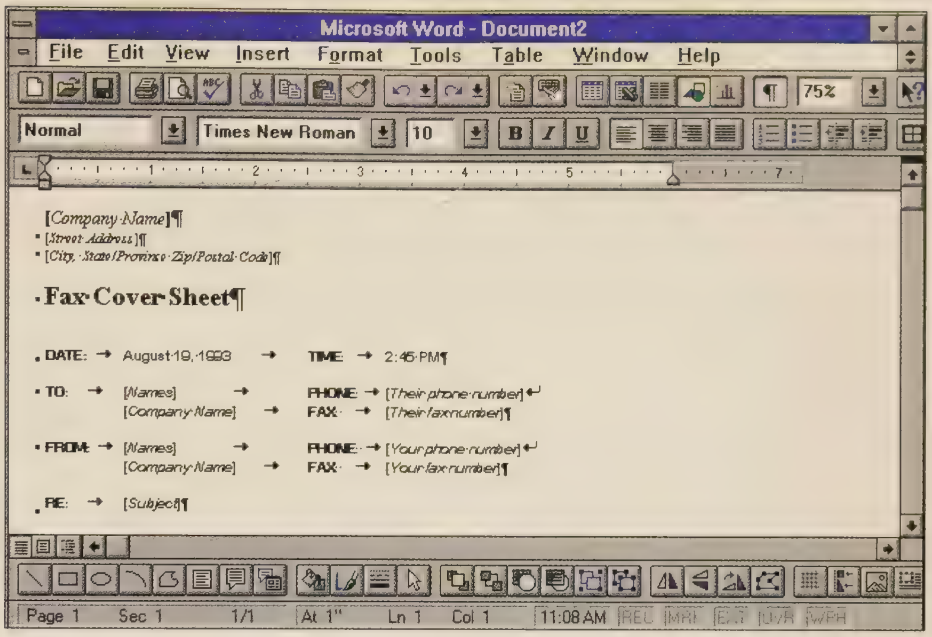
   The template appears on your screen, as shown in Figure 2-2.

You will notice that the name Document2 (and not Faxcovr1) appears at the top of the screen. This is because you do not open templates the same way you open other files. When you select a template to use, Word opens a working copy of the template, keeping the original template unchanged on disk. This way, you can make any changes you want in order to create your own document, and still preserve the original template to use again.

5. Scroll through the document, using any of the scrolling methods you used in Lesson 1.

FIGURE 2-2

The Faxcovr template allows you to quickly create a fax cover.



[Company Name]¶
[Street Address]¶
[City, State/Province Zip/Postal Code]¶

Fax Cover Sheet¶

DATE: → August 19, 1993 → TIME → 2:45 PM¶
TO: → [Names] → PHONE → [Their phone number]↵
[Company Name] → FAX → [Their fax number]¶
FROM: → [Names] → PHONE → [Your phone number]↵
[Company Name] → FAX → [Your fax number]¶
RE: → [Subject]¶

Notice that this template allows you to easily create a fax cover sheet simply by replacing the variable information.

Variable information is the text appearing between square brackets that you will replace with the actual information, such as the company name, or the text of the memo. Any information that you will need in every fax cover sheet (such as the layout, the date, or the words *TO* and *RE*) has already been entered for you, as shown in Figure 2-3. This reduces creating what could be a complex document to a few simple steps. If you have never used a template, you might now see what a powerful tool it can be. We're going to look at a few more templates. First, close the Faxcovr1 template.

6. Choose Close from the File menu.

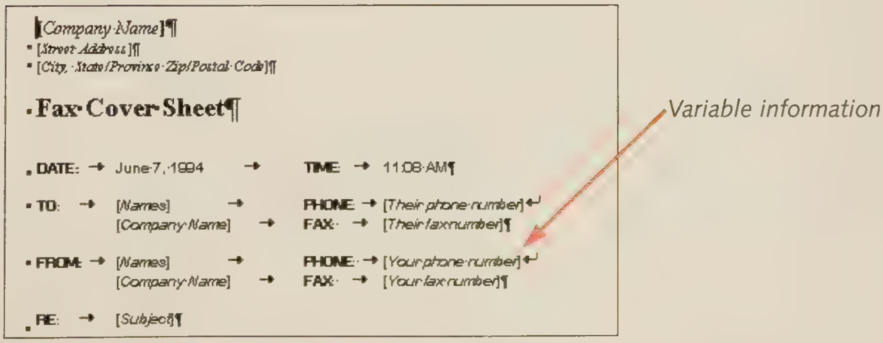
   Word closes Faxcovr1.

7. Now you are going to select another template. To do this, choose New from the File menu.

   The New dialog box displays.

FIGURE 2-3

You can easily create your own fax cover sheet by replacing the variable information (the information enclosed within square brackets) with the relevant information. The rest of the work—the page layout and the standard text—has already been done for you.


Variable information

[Company Name]¶
[Street Address]¶
[City, State/Province Zip/Postal Code]¶

Fax Cover Sheet¶

DATE: → June 7, 1994 → TIME → 11:08 AM¶
TO: → [Names] → PHONE → [Their phone number]↵
[Company Name] → FAX → [Their fax number]¶
FROM: → [Names] → PHONE → [Your phone number]↵
[Company Name] → FAX → [Your fax number]¶
RE: → [Subject]¶

The second template you are going to look at is one of Word's resumé templates. In this case, you are going to look at the template Resume4.

8. Select Resume4 from the list of available templates.

Notice that the Description box below the list of templates describes this as being an "Elegant Resume."

9. Choose OK to open this template.

The template Resume4 displays onscreen, as shown in Figure 2-4.

10. Scroll through this document and see how it looks.

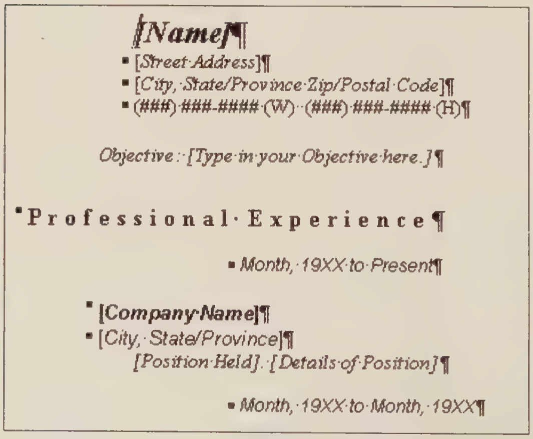
Notice that this resumé template already includes many of the standard elements of a resumé, such as an Objective line as well as a heading for Professional Experience. All of the information needed to complete this resumé is clearly marked. All you have to do to create a resumé of your own is to select and replace this variable text with your own information.

You are now ready to move on to the template you'll be using to create your new document.

11. First, close this resumé template by choosing Close from the File menu.

CREATING A MEMO

To create a memo, you first need to select the template that will provide the basic structure for your document. You can then change, add, or delete any of the text that appears within this template by selecting the text you want to change and typing new text to replace it. Referring to the section on selecting text in Lesson 1 might be a helpful review. Remember, you can always press Bksp or Del if you make a mistake typing. When you complete this lesson, you will have learned other ways of correcting mistakes as well.



[Name]¶

▪ *[Street·Address]¶*

▪ *[City,·State/Province·Zip/Postal·Code]¶*

▪ (###)·###-####·(W)··(###)·###-####·(H)¶

Objective:·[Type·in·your·Objective·here.]¶

▪ **Professional·Experience¶**

▪ *Month,·19XX·to·Present¶*

▪ ***[Company·Name]¶***

▪ *[City,·State/Province]¶*

[Position·Held].·[Details·of·Position]¶

▪ *Month,·19XX·to·Month,·19XX¶*

FIGURE 2-4

The template RESUME4 displays on your screen. (Only the top portion appears in this example.) Notice that the standard elements of a resumé, such as the Objective line and the Professional Experience heading, have already been included and formatted.

CREATE A MEMO

1. As the first step in this exercise, you will open the memo template which you'll be using to create a simple memo. To select this template, choose New from the File menu and select the Memo1 template. Then choose OK to use this template.

   The Memo1 template displays onscreen, as shown in Figure 2-5.

Notice that this template includes the simple elements familiar in memo documents. You will be using this template to create your first document.

Also notice that today's date appears automatically, so you don't need to change it. In later lessons, you will learn how to insert this special date character, which automatically includes the current date within a document. You will start entering text in the address fields of the memo.

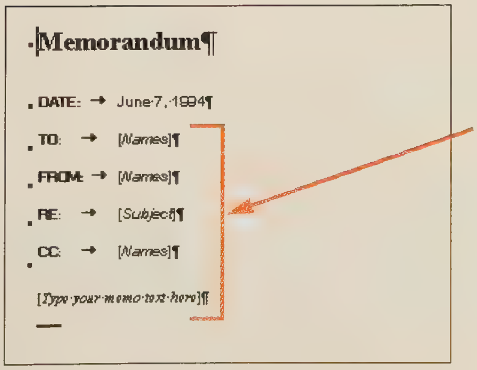
2. Select the variable text "[*Names*]." You will need to drag across the text to select it, since double-clicking on the text will highlight the word inside the brackets only, without highlighting the brackets themselves.
3. You are going to address this letter to all the sales associates in your company. Type **All Sales Associates**

   Notice that the text you typed replaces the previously selected text.
4. For this exercise, you are going to be sending this memo from the desk of Jonathan Wiley. Select the sample text after "FROM:" and type **Jonathan Wiley**
5. This memo's purpose is to tell the sales staff about a company party. Type a simple but meaningful subject in the "RE" field to describe this memo. Select the sample text after "RE:" and type **Sales Party**
6. Finally, you want to make sure that two other members of the company see this memo by sending a carbon copy of the memo to these employees. Select the sample text after "CC:" and type **Nancy Roberts, Joe DiVincenzi**

   When you're finished filling in this information, your memo should look like the one shown in Figure 2-6.

FIGURE 2-5

Before you begin work on the memo document, this is what the empty template looks like. Notice the areas where you are expected to provide information.



Memorandum¶

DATE: → June·7,·1994¶

TO: → [*Names*]¶

FROM: → [*Names*]¶

RE: → [*Subject*]¶

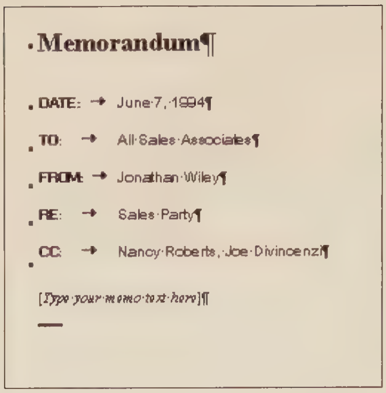
CC: → [*Names*]¶

[*Type·your·memo·text·here*]¶

Provide your information here.

FIGURE 2-6

After you have provided the information for the memos's heading, your memo should look like the sample shown here.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts, Joe Divincenzi¶

[Type your memo text here]¶

7. Now, you're ready to type the text of your memo. Select the variable text "[*Type your memo text here*]" and replace it with the following text. (Remember not to press Enter while typing your memo text. Word will wrap the sentences automatically.)

   If you have not yet heard the great news, sales for the 3rd quarter were way up--by 37%! We will convene in the Outdoor Patio at 4:00 PM to celebrate our success. Come hungry, as food and beverages will be provided. Those of you (and you know who you are) who reached the $150,000 mark for the quarter should be prepared to say a few inspirational words. See you there!

8. Look over our sample of the same document, shown in Figure 2-7, and ensure that your sample memo looks the same.

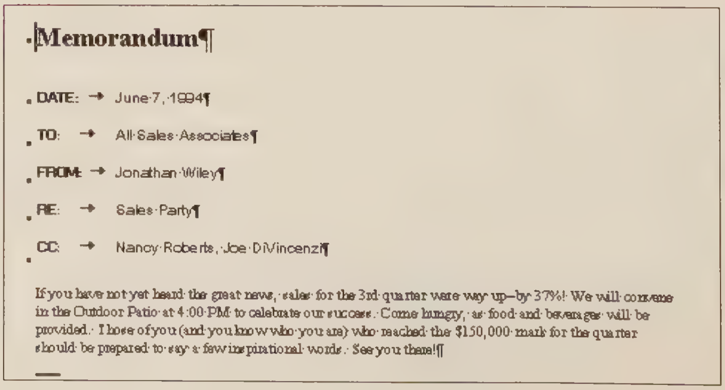
Leave the document on your screen while you read on to learn how to delete text.

DELETING TEXT

The power of using a word processing program becomes very apparent as soon as you want to make a change. The ease of deleting, changing, and moving text means that you can get a rough version of your ideas out quickly and then make a second pass to clean it up later.

FIGURE 2-7

Once you have finished entering text into your memo, it should look like the sample shown here.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts, Joe DiVincenzi¶

If you have not yet heard the great news, sales for the 3rd quarter were way up—by 37%! We will convene in the Outdoor Patio at 4:00 PM to celebrate our success. Come hungry, as food and beverages will be provided. Those of you (and you know who you are) who reached the $150,000 mark for the quarter should be prepared to say a few inspirational words. See you there!¶

Let's say you remember that Joe DiVincenzi will be out of town on the day of the party. Since there's no use in sending him a copy of the memo, you can delete his name from the CC list.

DELETE TEXT

1. Highlight Joe DiVincenzi to indicate that this is the text on which you want to perform an operation.
2. **Delete** the marked text by pressing Del on your keyboard.

   The selected text disappears.

   Pressing Del will always delete your current selection, whether this is a block of text, a picture, or another element of your document. In addition, if you don't have anything currently selected, pressing Del deletes characters to the right of the insertion point.

   You can also delete characters to the left of the insertion point by pressing Bksp. Let's try this now. Since you won't need the comma after "Nancy Roberts," you'll need to delete this too.
3. Your insertion point is to the right of the comma you want to delete. You could move the insertion point one space to the left and then use Del to remove the comma, but there is an easier way. Press Bksp to delete the comma after "Nancy Roberts."

   The comma disappears.
4. Although you have finished making your deletions, you should be familiar with all the different ways to remove elements from your document. Display the Edit menu now and notice the item Clear on this menu.

You might notice that choosing the Clear command performs the same function as pressing Del, since Del is the keyboard accelerator for this command. If you prefer to use the menus to perform commands, you could have chosen the Clear command to delete the selected text.

UNDOING AN ACTION

Making a change to your document and then suddenly discovering that you've made a mistake can be upsetting. With Word for Windows, however, you need never worry that you can't undo a mistake, because Word automatically tracks all the changes you have made to your document and allows you to reverse them easily.

It does this by maintaining a list of every action you performed that changed your document. This list, called the **undo** list, is available from Word's Standard toolbar.

Even after you delete a word, character, or graphic, you can easily bring it back by using Word's powerful Undo function. In this example, imagine that you've confused your dates. Joe DiVincenzi will be in town this week after all. Instead of retyping the deleted information, you can just undo the deletion.

UNDO AN ACTION

1. Display the Undo drop-down list by clicking on the arrow beside the Undo icon.

   The menu drops down and lists the last changes you made, as shown in Figure 2-8. You can easily reverse any of these actions by selecting it from the menu.

2. Select Typing from the top of this menu. This indicates that your last action was to type something. (Note that even though pressing Bksp removes text, Word considers any key pressed on the keyboard to be typing.)

   Notice that after you undo this action, the comma after Nancy's name is restored.

3. You still need to restore the deleted name. Find this action by displaying the Undo-drop down list again.

   Notice that what used to be the top item on this list, Typing, no longer appears, because you have already undone this action. The first item on the list is now Clear.

Even though you used Del to remove this text, Word refers to any action that removes a selected element as Clear.

4. Choose Clear to restore the deleted name.

   Notice that the deleted text, the name "Joe DiVincenzi," is now restored.

If you change your mind again, you can redo an undone action by choosing it from the Redo menu.

5. Display the Redo menu by clicking on the Redo button in the toolbar.

   Notice that both of the actions you undid appear on this menu.

6. Select Clear from this menu to delete Joe's name again.

   Notice that the name is again deleted.

7. Press Bksp to remove the comma.

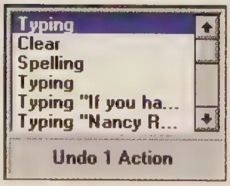


FIGURE 2-8

Display the Undo menu from the Standard toolbar to undo any changes you made to your document.

Leave this document open on your screen. You'll be using it for the next exercise on overtype mode.

USING OVERTYPE MODE

We have just looked at several ways of deleting text. One additional method is **overtype mode**, which allows you to replace existing (but unselected) text simply by typing over it. This differs from Word's normal behavior, where text you type is inserted into the existing text and pushes characters after it to the right. When you switch to overtype mode, each character you type *replaces* an existing character to the right of the insertion point. Using overtype mode is a matter of personal preference. Some people like to type new text, then delete the text they want to remove; others like to see it disappear as they type.

USE OVERTYPE MODE

1. Place the cursor before "Outdoor" in the memo text.

   Imagine that the party has been moved to the Atrium, and that the time has been changed to 5:00. You need to replace the existing information in your memo with this new information. You are going to do this by using overtype mode.

2. You can switch between Word's normal insert mode and its overtype mode by pressing Insert on your keyboard. (This key should be located near the arrow keys on your keyboard.)

   Notice that when you press Insert*, the letters* OVR *darken in your status bar, as shown in Figure 2-9. This indicates that overtype mode is now in effect, and reminds you that you are using a different mode of entering text.*

3. Now, it's time to see how overtype mode works. Type **Atrium at 5:00 PM for a celebration.**

   As you type, notice that the new text replaces the existing text. When you have finished typing, your document should look like that shown in Figure 2-10.

Indicates that you are using overtype

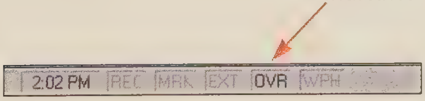
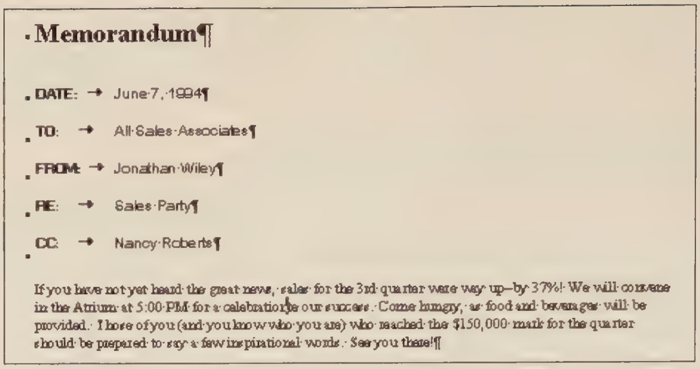


FIGURE 2-9

When you are using overtype mode to replace existing text, the Status bar indicates this mode by darkening the letters OVR.

FIGURE 2-10

When you have finished entering your new text, you may have to delete the extra characters from the original sentence by repeatedly pressing Del.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts¶

If you have not yet heard the great news, sales for the 3rd quarter were way up—by 37%! We will convene in the Atrium at 5:00 PM for a celebration e our success. Come hungry, as food and beverages will be provided. Those of you (and you know who you are) who reached the $150,000 mark for the quarter should be prepared to say a few inspirational words. See you there!¶

When you are finished typing, you may notice that some of the existing text in the original sentence still remains to the right of the new text. This is because the text you typed has fewer characters than the text you are replacing. Because of this, a good rule might be to use overtype only when you are changing everything to the right of the insertion point. That way, you won't run the risk of losing text you want to keep. In any case, you should check your screen frequently when you are using overtype mode to ensure that you are not inadvertently removing text that you intended to keep.

4. You can clean up by pressing Del until the rest of the sentence is deleted.

   Notice that Del *deletes characters to the right of the insertion point, while* Bksp *deletes characters to the left of the insertion point.*

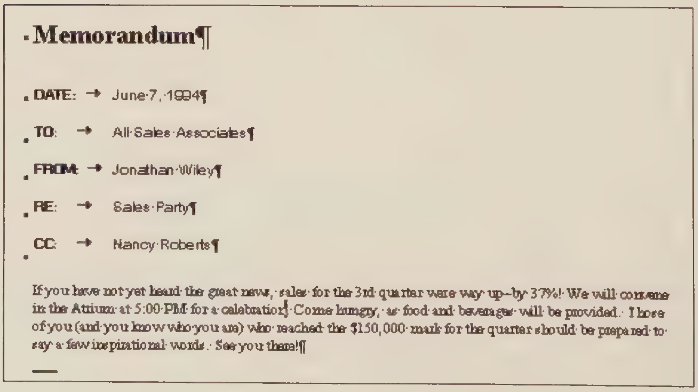
   Your document should now look like that shown in Figure 2-11.

5. In addition to using Insert to switch between insert mode and overtype mode, you can double-click on the overtype indicator in the Status bar to switch between these modes. Try this now by double-clicking on the *OVR* letters in the Status bar to turn overtype mode off.

   The overtype indicator returns to its original dimmed color, indicating that you are now back in insert mode.

FIGURE 2-11

After making your next set of corrections, your memo should look like the one shown here.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts¶

If you have not yet heard the great news, sales for the 3rd quarter were way up—by 37%! We will convene in the Atrium at 5:00 PM for a celebration. Come hungry, as food and beverages will be provided. Those of you (and you know who you are) who reached the $150,000 mark for the quarter should be prepared to say a few inspirational words. See you there!¶

CUTTING AND PASTING TEXT

Cutting text is another way to remove it from the screen. Unlike deleted text, which is completely removed, text you cut is saved onto the **Clipboard**, a special place in memory. This text can then be pasted back into this or another document. Remember, however, that the Clipboard is only a temporary holding area for text and graphics. Each time you cut or copy text, the selected text replaces the contents of the Clipboard, thereby eliminating the previously cut or copied text. In your memo text, you'll move a sentence to a different location by cutting it from one location and then pasting it into another.

CUT AND PASTE TEXT

1. Select the entire sentence that begins "Come hungry..." by holding down Ctrl while clicking anywhere within the sentence. (This is a quicker way to select a whole sentence than dragging with the mouse.)
2. Choose the Cut button from the toolbar.

   The selected sentence disappears from your document and is now contained within the Clipboard.

You can use the Clipboard to move the sentence to another location within this document, to another document, or to another application altogether. For now, let's just move it to a new location within the document.

You can move this sentence to a new location by **pasting** it back into your document from the Clipboard.

Although you could paste it back using the Paste icon in the toolbar, you might find it more convenient to learn some of the keyboard shortcuts for these frequently performed actions. All of the editing commands are included on the Edit menu within Word's menu bar.

3. Display the Edit menu now to look at all of the available editing commands, some of which are presented in Table 2-1.

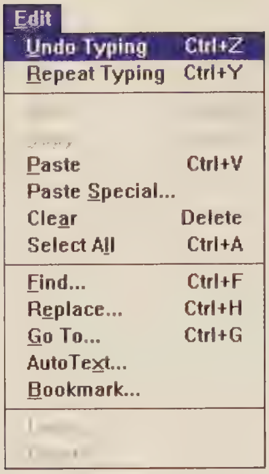
TABLE 2-1 **EDITING KEYBOARD SHORTCUTS**

ACTION	KEYBOARD SHORTCUT
Cut	Ctrl+x
Copy	Ctrl+c
Paste	Ctrl+v
Clear	Del

Notice that the Edit menu lists the keyboard shortcuts next to each of the editing commands Cut (Ctrl+x), Copy (Ctrl+c), and Paste (Ctrl+v), as shown in Figure 2-12.

FIGURE 2-12

Notice that the keyboard shortcuts for these editing commands are listed on the Edit menu beside each command.



4. Position the insertion point after the sentence ending "...inspirational words."
5. Try out the keyboard shortcut for the Paste command by pressing Ctrl+V.

   The cut sentence is pasted into this new location, as shown in Figure 2-13.

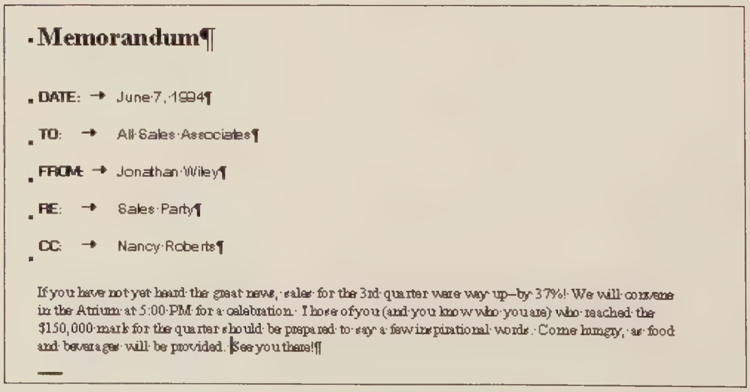
In the next exercise, you will learn another method for moving text around within your document.

DRAGGING-AND-DROPPING TEXT

We have just covered one way of moving text around in your document, but there are others. **Drag-and-drop** allows you to select text and drag it to a new location on the page, without involving the Clipboard. This feature is best used when moving text short distances on a page, since scrolling could cause you to "drop" the text in the wrong location. It is especially handy when you want to move text but don't want to replace the current contents of the Clipboard.

FIGURE 2-13

After you have moved a sentence from one location to another, your sample document should look like this.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts¶

If you have not yet heard the great news, sales for the 3rd quarter were way up—by 37%! We will convene in the Atrium at 5:00 PM for a celebration. Those of you (and you know who you are) who reached the $150,000 mark for the quarter should be prepared to say a few inspirational words. Come hungry, as food and beverages will be provided. See you there!¶

DRAG-AND-DROP TEXT

1. Select the phrase "(and you know who you are)" and then release the mouse button.
2. Point to the selected text and hold down the mouse button to let Word know that you intend to use drag-and-drop to move this sentence. If you release the mouse button too soon, Word will assume that you only want to select the sentence.

   You may need to wait for a second before the drag-and-drop cursor appears and Word displays the message "Move to where?" in the Status bar, as shown in Figure 2-14.
3. Start moving the selected text on the page.

   Notice that there is a faint dotted insertion point directly above the tip of the drag-and-drop arrow. This insertion point indicates where the text you are dragging will be dropped.
4. Position this dotted insertion point after "for the quarter" and release. You may need to add a space before or after the moved phrase.

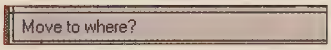
   The selected text now appears in this new location in your document, as shown in Figure 2-15.

COPYING AND PASTING TEXT

In addition to moving text around in your document, you may want to copy text from one location to another. **Copying** text allows you to place it

FIGURE 2-14

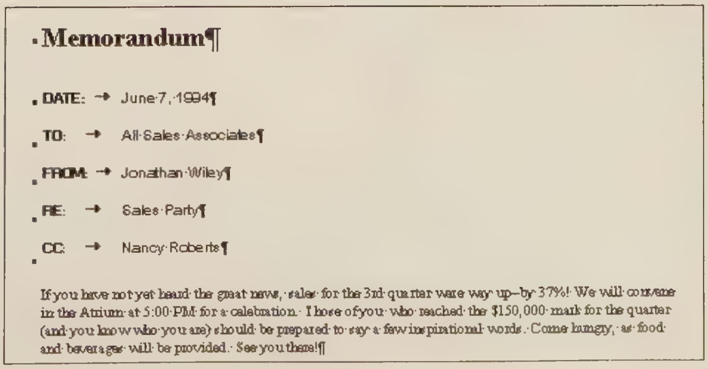
When you hold down the mouse button over a block of selected text, the Status bar message asks if you want to move the text block using drag-and-drop.



Move to where?

FIGURE 2-15

After dragging a phrase within your memo, your sample document should look like the one shown here.



Memorandum¶

DATE: → June 7, 1994¶

TO: → All Sales Associates¶

FROM: → Jonathan Wiley¶

RE: → Sales Party¶

CC: → Nancy Roberts¶

If you have not yet heard the great news, sales for the 3rd quarter were way up—by 37%! We will convene in the Atrium at 5:00 PM for a celebration. Those of you who reached the $150,000 mark for the quarter (and you know who you are) should be prepared to say a few inspirational words. Come hungry, as food and beverages will be provided. See you there!¶

in a new location without removing it from the original location. One way of copying text within your document is to first copy the text to the clipboard, and then paste it into the new location. In your memo, you will copy a phrase and paste it into another location, rather than retyping the phrase.

COPY AND PASTE TEXT

1. You want to use the name of the sender both at the start of the memo and at the end in a salutation. To do this, first select the name "Jonathan Wiley."
2. In order to copy this text to the Clipboard, choose the **Copy icon** from the toolbar.

   The selected text is pasted onto the Clipboard, although you cannot see this happening.
3. Now you are almost ready to paste this text into a new location. Before you do this, you need to add a little space above the salutation. Position the insertion point at the end of the memo text and press [Enter] twice.
4. Choose the Paste icon from the toolbar.

   The copied text now appears both in its original location and in the new location, as shown in Figure 2-16.

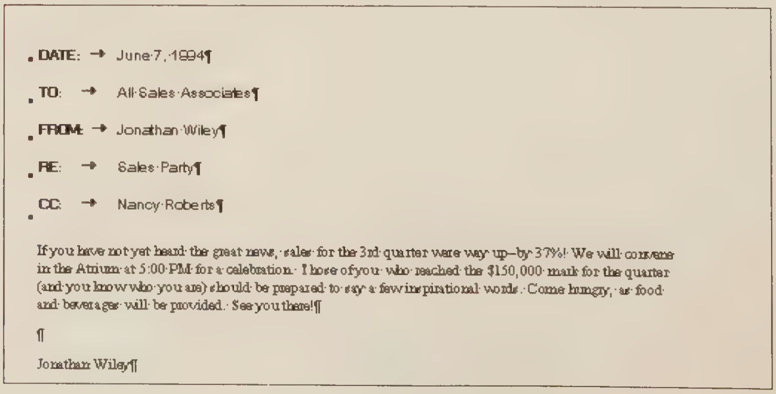
You can also copy text using the drag-and-drop method described earlier. To do this, you would hold down [Ctrl] while dragging the text to a new location. This copies the text to the new location while still keeping it at its original location.

SAVING THE DOCUMENT

You've finished creating your memo document. Before you print it, you may want to save the document to your Student Data Disk so you can use

FIGURE 2-16

Your finished memo should look like the one shown here.



DATE: → June·7,·1994¶

TO: → All·Sales·Associates¶

FROM: → Jonathan·Wiley¶

RE: → Sales·Party¶

CC: → Nancy·Roberts¶

If·you·have·not·yet·heard·the·great·news,·sales·for·the·3rd·quarter·were·way·up–by·37%!·We·will·convene·in·the·Atrium·at·5:00·PM·for·a·celebration.·Those·of·you·who·reached·the·$150,000·mark·for·the·quarter·(and·you·know·who·you·are)·should·be·prepared·to·say·a·few·inspirational·words.·Come·hungry,·as·food·and·beverages·will·be·provided.·See·you·there!¶

¶

Jonathan·Wiley¶

it again. As you will recall, the first time you save a document, Word prompts you to name the document and provide other optional information about it by presenting you with the Save As dialog box.

SAVE THE DOCUMENT

1. Choose the Save button from the toolbar.

   The Save As dialog box appears.

2. You are going to save this document to your Student Data Disk. Place the disk in drive A and close the drive door if there is one.
3. In the Save As dialog box, change the drive designator to drive A to save the file to your disk.
4. Type **memo** in the File Name box.
5. Choose OK.

   Word automatically adds the extension .doc *to your file name and places the file on your Student Data Disk.*

PREVIEWING THE PRINTED DOCUMENT

Before you print your document, you may want to preview exactly how it will look on the printed page. You can do this by using the Print Preview command on the File menu.

PREVIEW THE PRINTED DOCUMENT

1. Choose Print Preview from the File menu.

   The Print Preview dialog box displays, as shown in Figure 2-17.

The tools shown in Table 2-2 are available across the top of the Print Preview dialog box.

TABLE: 2-2 **PRINT PREVIEW TOOLS**

TOOLBAR BUTTON	DESCRIPTION
Print	Print the document on the printer.
Magnifier	Magnify the display of any part of the document by clicking on it.
One Page	Display only one page of the document at a time.
Multiple Pages	Display several pages of the document at once.

	TOOLBAR BUTTON	DESCRIPTION
95%	Zoom Control	Specify the magnification of the preview display.
	View Ruler	Display the page ruler above the preview display.
	Shrink to Fit	Shrink the preview display to fit the entire document within the window.
	Full Screen	Expand the preview display so it fills the entire window.
Close	Close	Close the Preview window.
	Help	Get help on any screen element.

2. Let's get a closer look at our previewed document by magnifying the display. Click on the Magnifier button to choose this tool if it is not already selected, then click near the top of the previewed document.

   Your document will be magnified within the preview window, as shown in Figure 2-18.

3. The document looks fine in its print preview. Now you will print it. First, be sure your printer is on and not already being used.

4. Press the Print button within the Preview window to print your document.

   Word sends the document to the printer and tracks its status throughout the printing process.

You have finished creating your first memo. You can exit Word now, or continue on to the next lesson.

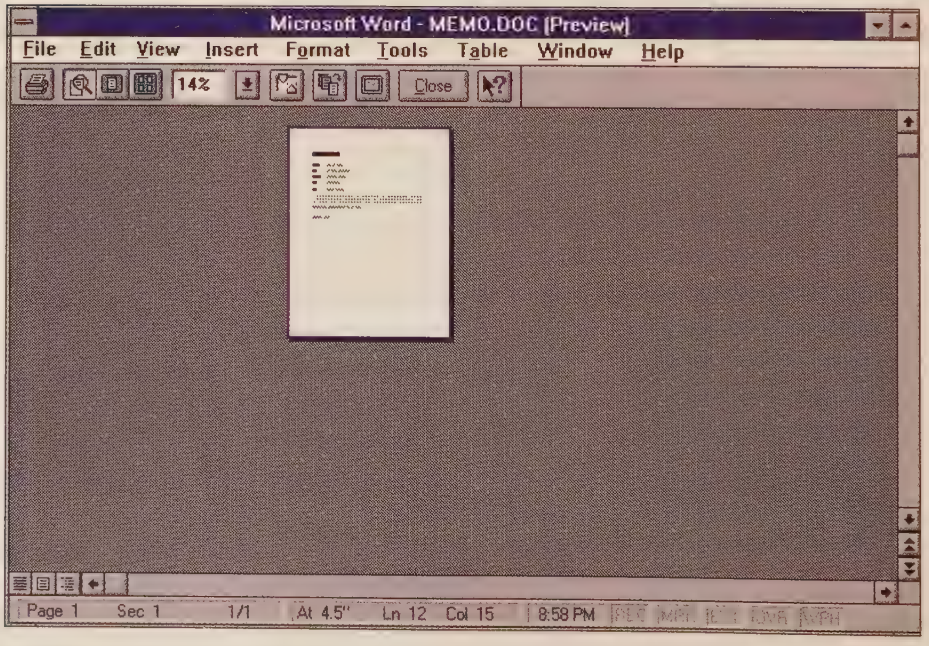
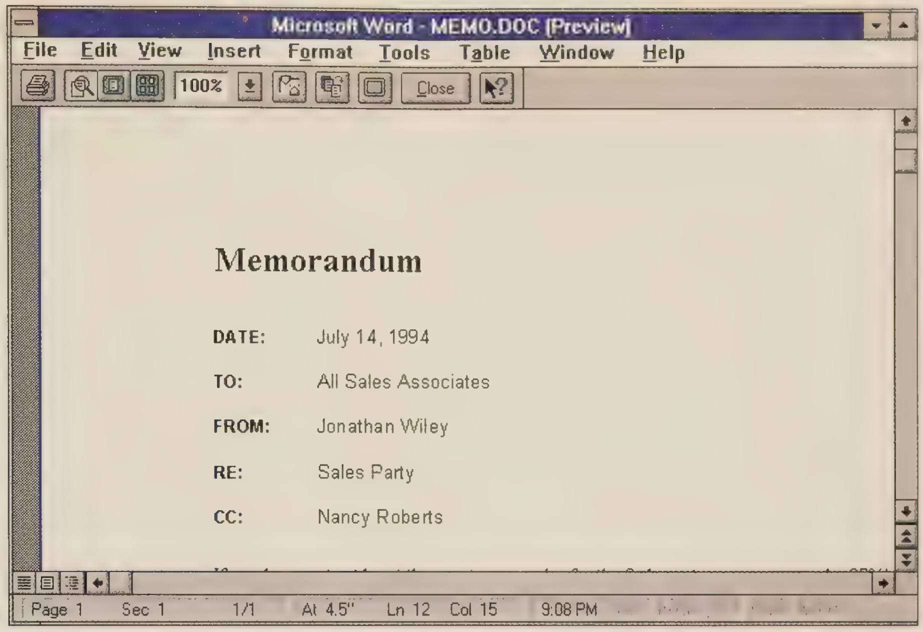


FIGURE 2-17
The Print Preview dialog box allows you to preview your finished document as it will look on the printed page.

FIGURE 2-18
Magnifying your previewed document makes the text easier to see on the display.


Microsoft Word - MEMO.DOC [Preview]
File Edit View Insert Format Tools Table Window Help
100%
Close
Page 1 Sec 1 1/1 At 4.5" Ln 12 Col 15 9:08 PM

Memorandum

DATE: July 14, 1994
TO: All Sales Associates
FROM: Jonathan Wiley
RE: Sales Party
CC: Nancy Roberts

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select template	Choose File, New	Alt+f,n *or* Ctrl+n	🗋
Delete character to right		Del	
Delete character to left		Bksp	
Delete selection		Del	
Clear selection	Choose Edit, Clear	Alt+e,a	
Undo change	Choose Edit, Undo	Alt+e,u *or* Ctrl+z	↶
Enter overtype mode	Double-click OVR in Status bar	Insert	
Cut text to Clipboard	Choose Edit, Cut	Alt+e,t *or* Ctrl+x	✂

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Copy text to Clipboard	Choose Edit, Copy	Alt+e,c *or* Ctrl+c	📄
Paste text from Clipboard	Choose Edit, Paste	Alt+e,p *or* Ctrl+v	📋
Drag-and-drop text	Drag selected text block to new location		
Drag and drop text: copy	Hold down Ctrl and drag selected text block to new location		
Save document	Choose File, Save	Alt+f,s *or* Ctrl+s	💾
Preview printed document	Choose File, Print Preview	Alt+f,v	🔍

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. drag-and-drop	a. Command on Edit menu that deletes current selection without placing it on Clipboard.
2. Clipboard	b. Key that removes current selection from document or, if there is no current selection, deletes character to right of insertion point.
3. Cut	c. Key that removes current selection from document or, if there is no current selection, deletes character to left of insertion point.
4. overtype	d. Allows you to place Clipboard contents at current insertion point.
5. Copy	e. Places copy of current selection on Clipboard
6. template	f. Removes current selection from document and places it on Clipboard
7. Paste	g. Temporary storage area used to move or copy document elements
8. Bksp	h. Master copy of certain type of document; includes appropriate page setup, text styles, and other formatting needed to create specific kind of document

TERMS	DEFINITIONS
9. Del	i. Each character typed *replaces* existing character to right of insertion point
10. Clear	j. Selecting text and dragging it to new location on page without using Clipboard

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. What is the default template Word uses each time you start the application?

- **a.** Normal
- **b.** Default
- **c.** Letter
- **d.** Plain

2. What is the Word command that allows you to reverse any changes you have made to your document?

- **a.** Help
- **b.** Undo
- **c.** Replace
- **d.** Change Back

3. Which menu is used to start a new document from a template?

- **a.** View
- **b.** Insert
- **c.** Format
- **d.** File

4. Which of the following methods is not used to replace text?

- **a.** Select text you want to replace and type new text.
- **b.** Select text you want to replace, press Del to remove it from your document, then type new text.
- **c.** Select overtype mode and begin to type.
- **d.** Select text you want to replace, choose Undo icon, then type new text.

5. Which command removes text from your document and places it on the clipboard?

a. Del

b. Copy

c. Cut

d. Bksp

6. Which of the following will not move text from one location to another?

a. Cut and Paste

b. Bksp and Paste

c. drag-and-drop

d. Copy and Paste

7. Which of the following commands will not place the current selection on the Clipboard?

a. Cut

b. Copy

c. Ctrl+c

d. Clear

8. Which command allows you to see how your document will look on the printed page before you print it?

a. Quick Print

b. Print Preview

c. View Print

d. Document View

9. Where does Word store information temporarily that you have cut or copied from your document?

a. Black Box

b. Storage Bay

c. Clipboard

d. Cupboard

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Describe two ways to copy text to a new location within your document.
2. Can you recover text you deleted from your document using Del?
3. Describe the difference between using Bksp and using Del.
4. Describe two ways to remove text from one location in a document and place it in another.
5. Compare and contrast Cut and Copy.
6. Does the Clipboard only hold text material?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Type the following sentence:

   The rain in Spain falls mainly on the plain.

   Use a different technique than you did in Lesson 1 to modify it to read:

   The fog in Trog falls mainly in the bog.

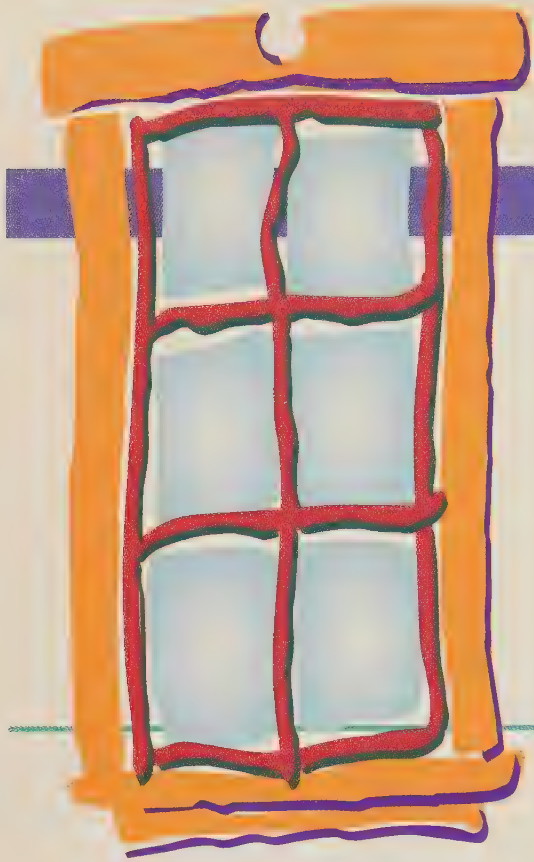
2. Using any of the letter templates, write a letter to

   Jane Doe
   1222 S. First Street
   New York, NY 10001

   and type the following request:

   Please send us a new demo version of your office organizer software. The original disks did not survive the journey.

   Remember to sign it.



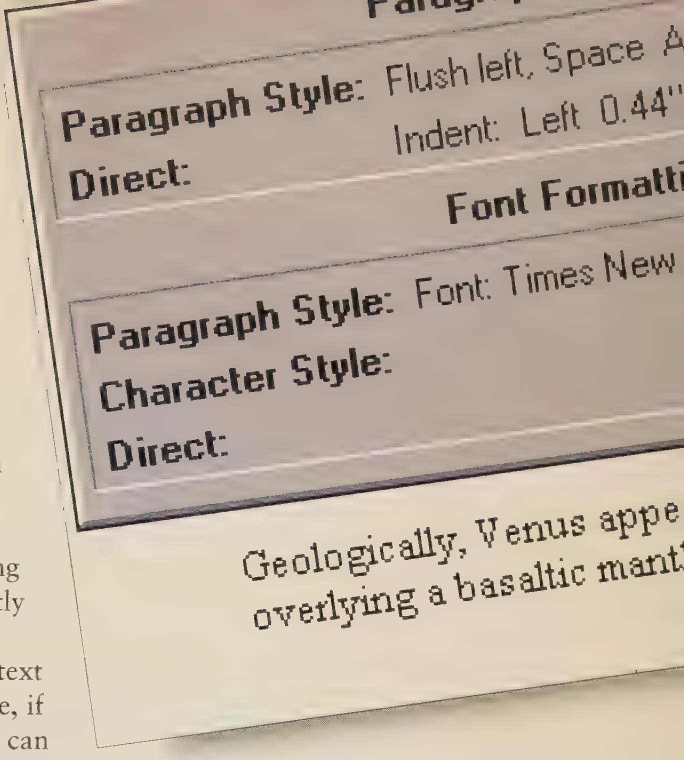
LESSON 3

FORMATTING TEXT

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Format a document quickly by using AutoFormat.*
- *Change text appearance by applying text styles.*
- *Change the appearance of a character.*
- *Change the appearance of a paragraph.*
- *Create your own text style.*


Paragraph Style: Flush left, Space A
Direct: Indent: Left 0.44"
Font Formatti
Paragraph Style: Font: Times New
Character Style:
Direct:
Geologically, Venus appe
overlying a basaltic mant

Once you have mastered entering and editing text, you are ready to make your document look the way you want it to. As you learned in the previous lesson, changing the appearance of the text within your document is called formatting. Formatting text is merely the process of changing its appearance. You can greatly enhance the way a document looks by formatting selected text in the document. For example, if you are writing a report, you can make the section headings stand out by changing them to bold or by using a larger font size. You could underline text or use italics to emphasize important points. Not only will the report look much more interesting, but it will also be easier to read.

In addition to the character and paragraph formats you learned about in Lesson 2, Word has a set of predefined document formats (called AutoFormats) that allow you to instantly change the appearance of your entire document by changing the text font or the style of the text headlines, for example. Using these formats, you can have Word search through your document and change the appearance of the entire document automatically to give it a cleaner and more professional look. Later in this lesson, you will learn how to make these same kinds of formatting changes manually by using something that Word calls a style, but for now just take a little time to observe the power of Word's AutoFormat feature.

Picturing how things work without trying it out can be hard. So in the next exercise, you'll get to see how formatting can improve a document's appearance.

UNDERSTANDING TEXT FORMATS

You began to experiment with character and paragraph formats in Lesson 1. Now it's time to learn about the many different ways you can change text appearance within your document. Below is a partial list of some of the character and paragraph formats that you can use to change text appearance within your document. Make sure you understand what these different formats are before you move on to creating formats on your own. During this lesson, you will learn to apply some of these formats and at the end of this lesson, you will find a more detailed list which includes the shortcut keys you can use to apply formatting.

One of the most common ways to change the appearance of characters within your document is to change the font (or **typeface**) of the characters.

Another way to change character appearance is to alter the **font size** (sometimes called **point size**) of the characters. Below are some examples of changes to both the font and the font size. Notice that selecting a font determines the character shape, while changing the size affects only their size.

- different fonts: Font Font Font Font
- different sizes of the same font: Size Size Size

Two fonts, **Times Roman** and **Helvetica**, are commonly used in documents, while others are used somewhat less frequently, such as Palatino and Chicago. The most common font sizes are 10 or 12 for the body of a document, and 14 or 16 for headings that you want to stand out from the body of the text.

In addition to changing the font or size of a character, you can emphasize a character by changing its **type style** (Don't confuse this with the styles Word uses to change the overall appearance of a block of text.)

Some examples of different type styles are:

- **Bold**
- *Italic*
- Underline
- Double underline

Note that you can combine type styles to produce bold-italic text, for example. In addition to changing the style of the type, you can specify its placement. Notice the placement of the 2 in the following examples:

- **Subscript:** SO_2
- **Superscript:** xyz^2

In addition to these character formats, you can use paragraph formats to determine the length of a line of text within the paragraph, to determine the spacing between lines of text, or to determine how the text within a paragraph is aligned. You will learn more about these paragraph formats later in this lesson.

Using different fonts, sizes, and styles make a document more interesting to read. Formatting also helps to make a document clearer and easier to understand. In the next exercise, you will select a document to format.

TIP *Avoid over-formatting. A document with too many styles, fonts, sizes, and colors can be distracting and difficult to read.*

OPEN THE DOCUMENT

Let's begin formatting text for an article. First, you'll need to open the file that contains the article text.

1. Place your Student Data Disk in drive A and close the drive door if there is one.

2. Click the Open button on the toolbar.

   The Open dialog box appears on your screen.

3. By default, Word lists the files on your computer's hard drive. To see the list of files on the floppy disk in drive A, set the drive designator in the Open dialog box to A.

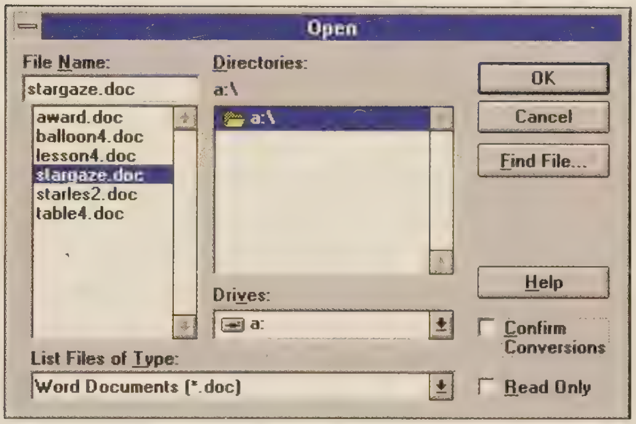
   The files on drive A display in the Files Name box, as shown in Figure 3-1. The file that you want to open is called STARGAZE.DOC.

4. Double-click STARGAZE.DOC to open this document.

   The file is now opened, and the document appears on your screen, as shown in Figure 3-2.

FIGURE 3-1

The File Name box displays the document on drive A that you want to open, STARGAZE.DOC.



File Name: stargaze.doc

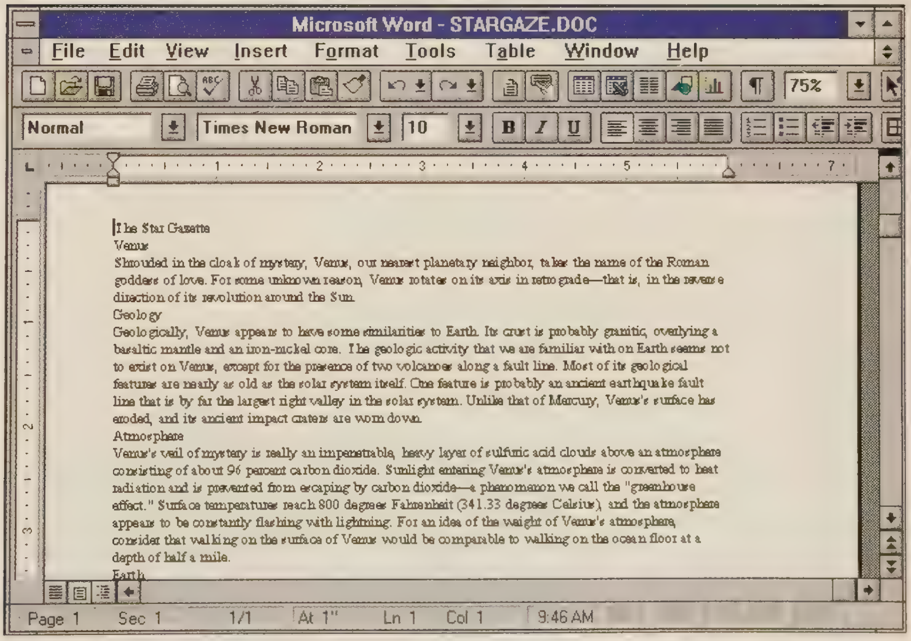
Directories: a:\

Drives: a:

List Files of Type: Word Documents (*.doc)

FIGURE 3-2

Examine your unformatted document on screen. Notice that it is mostly unformatted and is very difficult to read. You will fix that in this lesson.



The Star Gazette
Venus
Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.
Geology
Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest rift valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.
Atmosphere
Venus's veil of mystery is really an impenetrable, heavy layer of sulfuric acid clouds above an atmosphere consisting of about 96 percent carbon dioxide. Sunlight entering Venus's atmosphere is converted to heat radiation and is prevented from escaping by carbon dioxide—a phenomenon we call the "greenhouse effect." Surface temperatures reach 800 degrees Fahrenheit (341.33 degrees Celsius), and the atmosphere appears to be constantly flashing with lightning. For an idea of the weight of Venus's atmosphere, consider that walking on the surface of Venus would be comparable to walking on the ocean floor at a depth of half a mile.
Earth

Before beginning to work on this document, you are going to first rename it so the original file remains intact on your Student Data Disk.

5. Select Save As from the File menu to display the Save As dialog box. When this dialog box appears, type the name **starles2** and click OK.

   Take a moment now to look through your document and become familiar with it.

6. Click on the vertical scroll bar to scroll through this document.

   As you scroll through the document, notice that the text within it looks pretty much the same, making the document very difficult to read. In particular, notice that finding the main headings is difficult, because they have the same appearance as the text in the body of the document. In this lesson, you will format this document to make it more presentable.

USE AUTOFORMAT

Instead of starting this reformatting process from scratch, you can have Word's AutoFormat feature make a rough pass and clean up your document. Word reformats documents by recognizing certain common elements, such as headings and lists, and gives them a standard, professional appearance. For example, Word might locate all the main headings in your document and make them larger than the rest of the text within your document. Additionally, Word might bold these headings to make them stand out. In this exercise, you will use Word's **AutoFormat** feature to format the document automatically.

1. Choose AutoFormat from the Format menu.

   Word notifies you that it will automatically format your document, as shown in Figure 3-3.

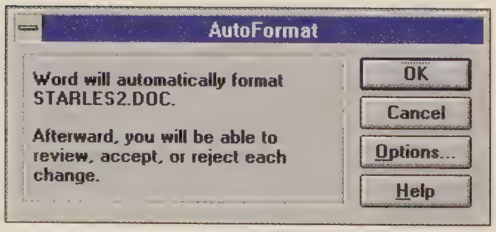
2. Since you want Word to make a pass at formatting this document, choose OK to have Word format your document.

   A message appears in the status bar indicating that Word is now formatting your document.

3. Once your document is formatted, a notice box appears informing you that Word has finished formatting your document, as shown in Figure 3-4.

FIGURE 3-3

Before formatting your document automatically, Word first ensures that this is what you want to do.

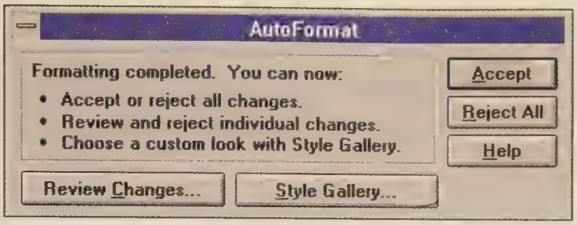


Word will automatically format STARLES2.DOC.

Afterward, you will be able to review, accept, or reject each change.

FIGURE 3-4

When Word has finished formatting your document, it gives you the opportunity to accept or reject the formatting changes.



Formatting completed. You can now:

- Accept or reject all changes.
- Review and reject individual changes.
- Choose a custom look with Style Gallery.

You now have the opportunity to accept all the changes, reject all the changes, or review each change made.

4. Click on the vertical scroll bar to scroll through the document and see the kind of changes Word has made to the formatting.

   Notice that the headings over each section now appear in bold type, and that their font size has been increased.

Now you know one way Word can format your document. Before you accept this formatting, however, take some time to look through the other choices available. You can do this by browsing through the Style Gallery and looking at the other ways your document can be formatted. Then you can select the one that best suits your needs.

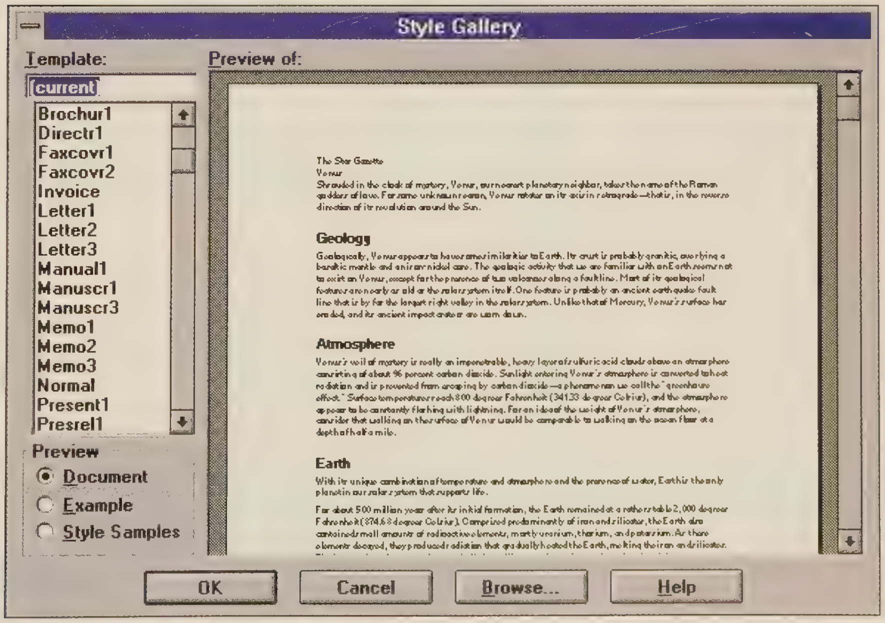
5. Choose the Style Gallery button at the bottom of the AutoFormat dialog box.

   Word displays the Style Gallery dialog box, as shown in Figure 3-5.

Notice that the large sample box on the right side of this dialog box shows you how your document now looks with the format that Word chose to use for it. On the left side of this dialog box is a list of the available formats you can choose for your document.

FIGURE 3-5

The Style Gallery includes a preview of how your document will look with the various styles applied. Notice that Word has formatted the headings so that they are easier to read.



Template: [current]

Preview

● Document
○ Example
○ Style Samples

6. Let's see how this document would look if it were formatted as a press release. To try out another style for your document, scroll down the list of available templates until you see the first Press Release template (called Presrel1).

7. Click on Presrel1.

   Notice in the preview that your document now follows the conventions used for press releases—it is double-spaced (that is, there is one blank line between each line of text), and the headings are bold.

8. Let's see how it would look as a report. Try out another style by choosing Report1 from the list of available templates.

   Your document is now single-spaced, and the headings are bold.

9. This looks like a nice format for the document. Choose OK to apply this style to your document.

   Word reformats your document using this style, and again asks you if you want to accept or reject the changes.

10. Choose Accept to use this format for your document.

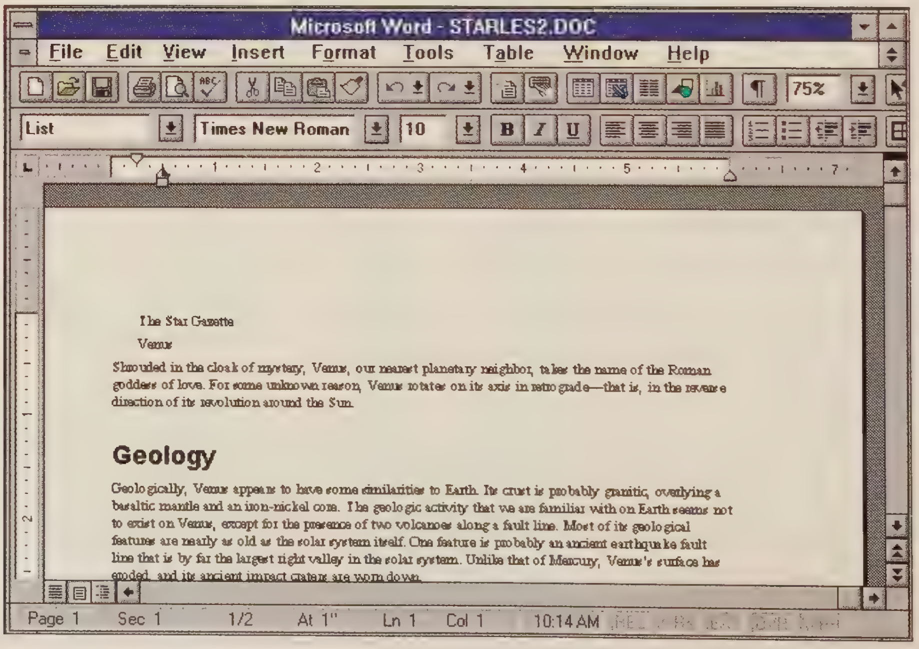
    The AutoFormat dialog box is dismissed, and you are returned to your new, formatted document as shown in Figure 3-6.

FORMATTING THE TITLE

Although Word has made a good start at formatting your document, you may want to go back in and tinker with some of the formatting. The next few exercises will lead you through this process.

FIGURE 3-6

Word has formatted your document. Notice, however, that there is still some work to be done.



The Star Gazette

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

Geology

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest rift valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

Notice that the AutoFormat feature did not format the title of your article. Let's make this title stand out by emphasizing the text, changing the font, and increasing the font size. Using Word's Formatting toolbar, these changes are all simple to make.

FORMAT THE TITLE

1. First, tell Word which piece of text you want to change by selecting the article's title, "The Star Gazette."

   Remember, you can select an entire sentence by holding Ctrl *while clicking anywhere in the sentence.*

Let's start by changing the font so it's different from the rest of the document. Word has many fonts available, although the exact name and number of these fonts may vary depending on the printer. (Most printers are not programmed to recognize every type of font.) In the formatting toolbar (as shown in Figure 3-7), you will see the font name, Times New Roman. This is the current font used for the selected text. A fast, easy way to change the font is to choose another font from the font list on the Formatting toolbar. Let's try this now.

2. Click the arrow to the right of the font name Times New Roman, to see a scrolling list of available fonts.
3. Scroll up the drop-down list until you see the font Arial.
4. Click on the new font name.

   Notice that the heading now uses a different font. However, the size of this font still seems small in relation to the size of the rest of the text in your document.

5. You are also going to change the size of the text by increasing the font size. To do this, click the arrow next to the font size and choose 48.

   Notice that the title text is now substantially larger than it was before.

Finally, you are going to emphasize this text by selecting a type style. Word provides several different styles of type that you can use for emphasis. For example, most fonts have a bold, italic, and underlined style, as well as several other available styles. In the next step, you are going to emphasize text using the bold and the italic type styles.

6. Click the Bold icon in Word's formatting bar.

   Notice that the words now appear in boldface type.

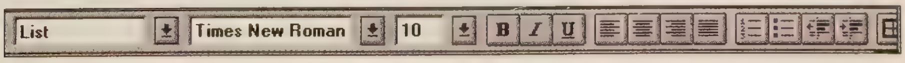


FIGURE 3-7
Word's formatting toolbar allows easy access to the most commonly used formatting commands.

You can combine different type styles to change the emphasis for a word or phrase. In the next step, you will add italic emphasis to this bold type.

7. Click the Italic icon in Word's formatting bar.

   Notice that the words now appear in bold-italic type.

Now your title really stands out, as shown in Figure 3-8.

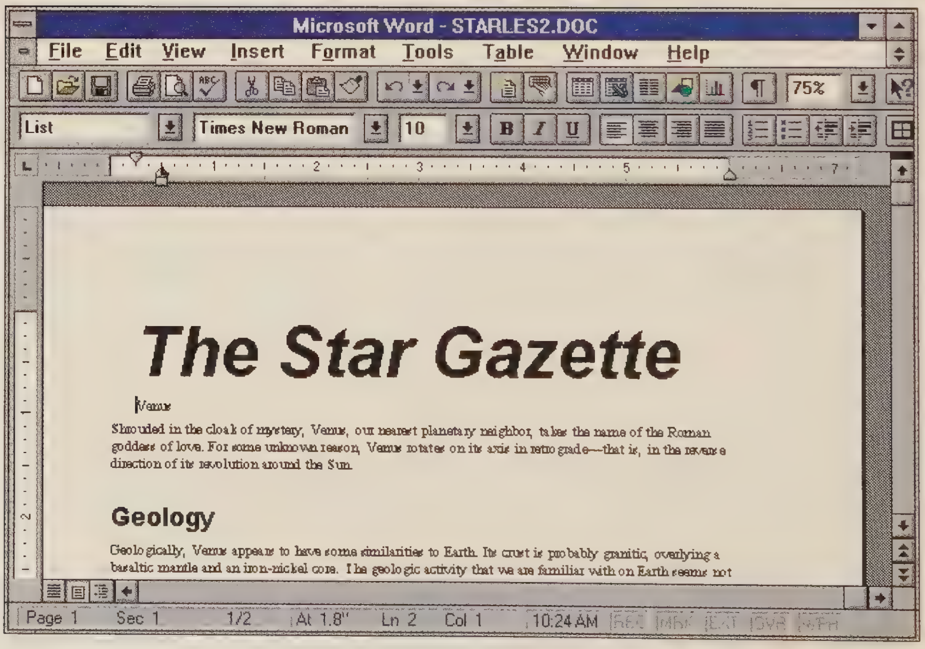
USING PREDEFINED STYLES

You may want to use the same text appearance for similar elements throughout your document. If you have to change the font, point size, type style, and so forth each time you encounter the same text element, you will waste a lot of time. A much quicker and more effective method is to create a **style** made up of character and paragraph attributes, and apply this style each time you want to apply a set of changes.

Word does this by applying styles to identifiable types of text. For example, if you have a heading over some of your paragraphs, Word will apply a style to each heading called Heading 1. If Word encounters subheads below this heading, it will apply a style called Heading 2. For the body of your document, Word will apply a style called Normal.

The appearance of text using these styles depends on the type of document you are creating. For example, if you are creating a business letter, the text styles used will be more formal than those used when you are creating a flyer.

This will be easy to see in the next exercise.



The Star Gazette

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

Geology

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not

FIGURE 3-8

Reformatting your title has really made it stand out on the page. This is a great improvement over the original formatting, but you're not quite done yet.

USE PREDEFINED STYLES

Word includes many predefined styles for common text elements, such as body text, headings, and lists. You will be using one of these predefined styles to format the heading "Venus" in your document.

Notice that the heading "Venus" should have the same text appearance as the heading "Geology" in your document. You can quickly apply this appearance to one heading by applying the text style used by the other headings in your document.

1. To see what text style Word is using to format the headings in your document, click "Geology."

   Note the style name in the Formatting toolbar is Heading 1. This is the style we want to apply to the heading "Venus."

2. Click on "Venus."

   Notice that "Venus" is currently using a style called List.

3. To apply a new style to this heading, click on the arrow next to the style name in the Formatting toolbar.
4. Scroll up to the style Heading 1 and click to select it.

   Note that the heading "Venus" now looks like the other headings in the document and that the style now reads Heading 1.

FORMATTING THE SUBHEADINGS

When we asked Word to format our document automatically, it was unable to distinguish between the headings "Venus" and "Earth" and the subheadings "Geology" and "Atmosphere" in our document. These headings and subheadings should be formatted in different ways so the document's organization is clear to the reader.

We need to change the formatting on subheadings so they look different than the headings. Although we could do this by selecting a different style to format these headings, we are going to create our own text appearance from scratch.

FORMAT THE SUBHEADINGS

1. Select the subheading "Geology."

   As you saw above, to make a few changes to text using the Formatting toolbar is fast. The Font dialog box, however, allows you to change many attributes and see your changes in the Preview box before applying them to the selection itself.

2. Choose Font from the Format menu.

In the Font dialog box, you can see the many formatting options available to you, as shown in Figure 3-9.

3. Your first step is to change the font. In the Font list, scroll to Times New Roman and click to select it.

   Note that Bold is already selected in the Font Style list.

4. Next, you are going to reduce the size of these subheads so they are smaller than the main headings. To do this, scroll to 12 in the Size list and select it.

5. Finally, you are going to use small caps to emphasize your subheading. Click the Small Caps box in the Effects options.

   Look in the Preview box to see how your changes will look.

6. Click OK.

   Notice that these changes have been made to the selected text.

COPYING THE FORMATTING

Once you have created a new format, you may want to use it in several other places in your document. There are several ways to do this, but the easiest is the Format Painter tool which allows you to copy the formatting of the currently selected text and apply it to other places in your document.

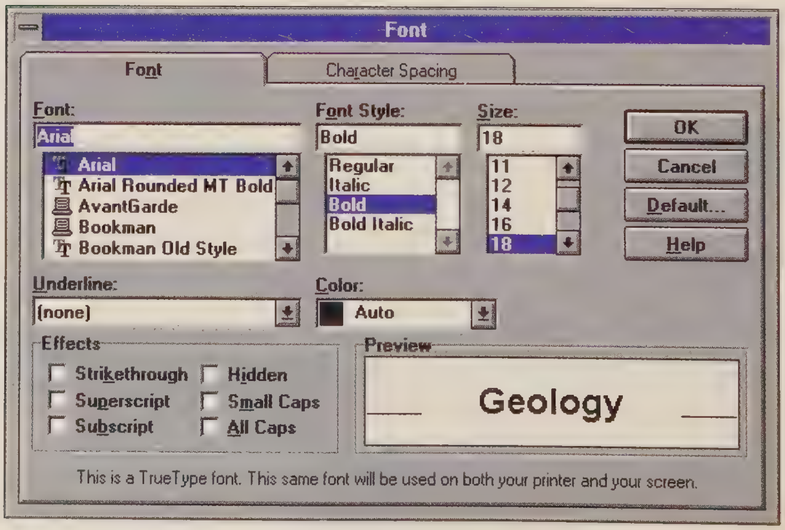
COPY THE FORMATTING

1. With "Geology" still selected, double-click the Format Painter button.

   Double-clicking on the Format Painter button keeps it selected until you turn it off. The pointer on the document now looks like a paintbrush.

FIGURE 3-9

The Font dialog box allows you to modify several aspects of the font.



Font: Arial

Font Style: Bold

Size: 18

Underline: (none)

Color: Auto

Geology

This is a TrueType font. This same font will be used on both your printer and your screen.

2. Click on the subhead "Atmosphere."

   Notice that the appearance of this subhead changes to match that of the subhead you just formatted.

3. Apply this new text appearance to the remaining subheads in your document by scrolling down and clicking on "Geology," "Atmosphere," and "Moons" under the heading "Earth."

   The subheads in your document now share a similar text appearance.

4. You have finished using the Format Painter. Click on the Format Painter button to deselect it.

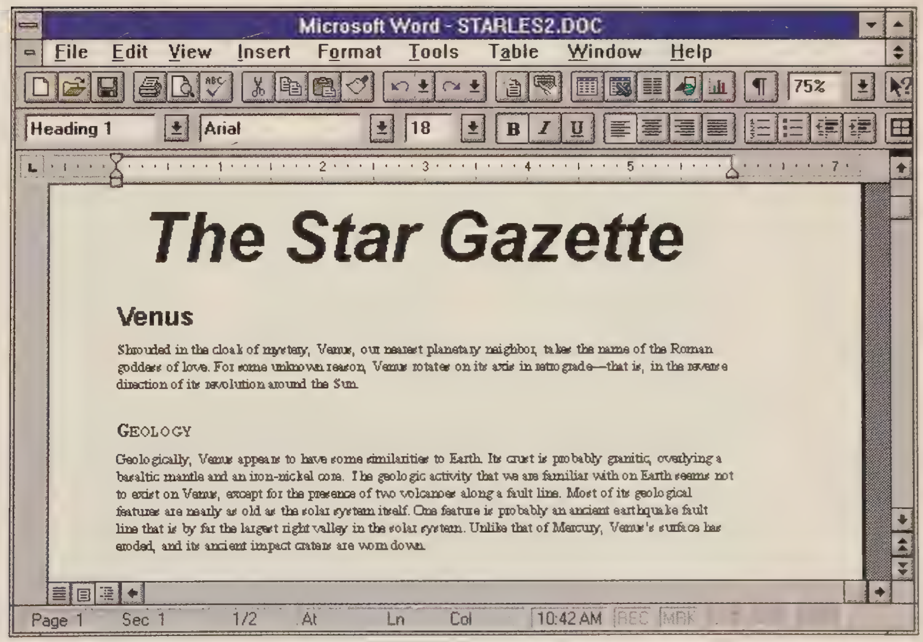
Now your document is beginning to look better (as shown in Figure 3-10). You've seen how changing character appearance can enhance the look of your document. In the next section, you'll change the appearance of the body text in your article.

CHANGING INDENTS

When you want to move the text within a paragraph in relation to the page margins, you can change the paragraph **indentation**. This specifies how far the right and left edges of the paragraph are from the page margins. You can easily change paragraph indentation by using either the page ruler or the Paragraph dialog box. You can use the ruler to change the paragraph's appearance by simply dragging the indent markers.

In your article, you want to indent the body text as well as the subheadings, to increase your article's readability.

FIGURE 3-10
Your document should look like the sample shown here.


Microsoft Word - STARLES2.DOC
File Edit View Insert Format Tools Table Window Help
75%
Heading 1
Arial
18
B I U
Page 1 Sec 1 1/2 At Ln Col 10:42 AM REC MRK

The Star Gazette

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest right valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

CHANGE INDENTS USING THE PAGE RULER

1. Select the four paragraphs below "Venus." Begin with the subhead "Geology" and end with the paragraph below the subheading "Atmosphere." (Remember that the subheadings themselves are paragraphs.)
2. Drag the box at the bottom of the indent markers until the shadow line falls between the *n* and the *u* in the word "Venus." Release the mouse button.

   The ruler is a handy way to indent because you can "eyeball" the results.

   Notice that the subheads and the paragraphs below them now use the same paragraph indentation.

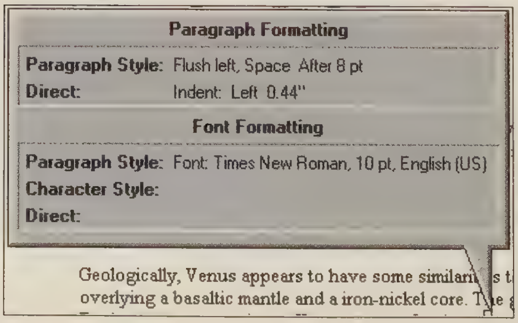
CHANGE INDENTS USING THE PARAGRAPH DIALOG BOX

The six paragraphs below the paragraph about Earth also need to be indented. You'll use the Paragraph dialog box to indent the paragraphs this time.

First, you will need to find out exactly how far you indented the paragraphs in the steps above. The Help button on the Standard toolbar can provide this information. (If the Help button is not visible on your screen, click on the Maximize button to increase the application window to its full width.)

1. Click the Help button.
2. Click anywhere within the indented paragraphs.

   A help box appears with information about the paragraph formats and font formatting, as shown in Figure 3-11. Beside Direct you will see "Indent: Left 0.44." (You may see a different number here, depending on how far you dragged the indent markers in the previous section.) Now you have the precise number to use to indent the remaining paragraphs in your article.



Paragraph Formatting

Paragraph Style: Flush left, Space After 8 pt
Direct: Indent: Left 0.44"

Font Formatting

Paragraph Style: Font: Times New Roman, 10 pt, English (US)
Character Style:
Direct:

Geologically, Venus appears to have some similari s t
overlying a basaltic mantle and a iron-nickel core. T e

FIGURE 3-11

The Help box shows you the formatting used by the indicated text.

3. Click on the Help button to deselect it.
4. Select the six paragraphs below the two paragraphs about the Earth. (These paragraphs begin with the subheading "Geology" and end at the end of the document.)
5. Choose Paragraph from the Format menu.

   You'll see the Paragraph dialog box, as shown in Figure 3-12.

Notice that this dialog box has two main sections: Indents and Spacing, and Text Flow. Within the Indents and Spacing section are settings that control the indentation of your paragraphs, as well as the spacing between paragraphs. The Preview section allows you to see the new formatting before you actually apply the changes.

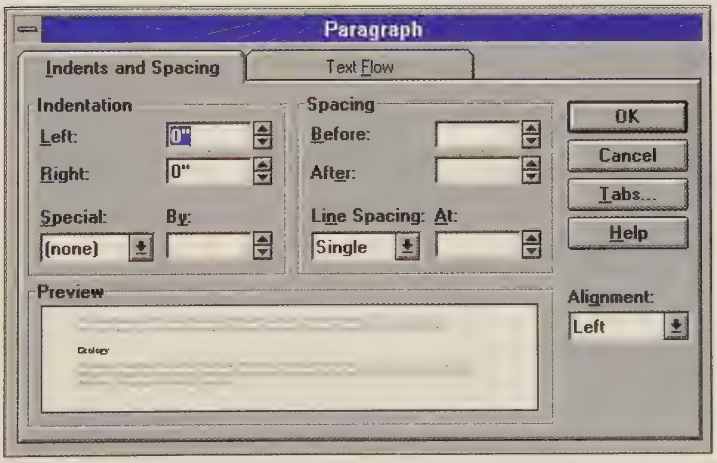
6. Type **.44** in the Left indent box.
7. Click OK.

   Scroll up the document so you can see that these indented paragraphs look the same as the ones you indented using the ruler.

CHANGING SPACING BETWEEN PARAGRAPHS

Indenting the subheading paragraphs helped to visually organize your article. Space between the paragraphs (**paragraph spacing**) will make the document easier to read. Instead of pressing Enter to add blank lines before or after a paragraph, you will use the Paragraph dialog box again to change the space before and after the paragraphs. Here a some of the advantages of using the Paragraph dialog box to add space between paragraphs:

- You can specify precise spacing between paragraphs. You can also specify different spacing for different types of paragraphs.



Left: 0"
Right: 0"
Special: (none)
By:
Line Spacing: Single
At:
Alignment: Left

FIGURE 3-12

The Paragraph dialog box allows you to change several aspects of a particular text block's paragraph attributes.

- If you delete or move a paragraph, the spacing moves with the paragraph. You won't have leftover blank lines to delete, or lines to add.

You will use the Paragraph dialog box to change the spacing between a subheading paragraph and the text paragraph below it.

CHANGE SPACING BETWEEN PARAGRAPHS

1. You are going to change the spacing above and below the subheads in your document. Select the first subheading by clicking on "Geology" below the "Venus" heading.
2. Choose Paragraph from the Format menu.

   The Paragraph dialog box displays.

Notice that the right side of this dialog box controls the spacing between paragraphs. As you have probably guessed, Spacing Before controls the amount of space above the paragraph, while Spacing After controls the amount of space below the paragraph. You are going to add space both above and below this subhead.

3. Type 4 in the Spacing Before box.
4. Type 2 in the Spacing After box.
5. Click OK.

Notice how the spacing sets off the subheading from the heading. You can experiment with different spacing on your documents.

CREATING A STYLE

In your article, you'll need to copy the spacing created for the subheading paragraph Geology to the other subheadings. You could use the Format Painter button as you did before, but now you'll learn to create a format style which will allow you to store all of the formatting in a particular paragraph with a name so that you can then apply it to any paragraph in your document.

CREATE A STYLE

1. Since the subhead "Geology" has the text appearance you want, you will use it to create your new style. Select the subhead "Geology."
2. Choose Style from the Format menu.

   The Style dialog box displays.

This dialog box allows you to access information about all of the text styles available in your document. Notice that the two Preview boxes display a sample of the character attributes as well as the paragraph attributes. At the bottom of the dialog box, all of the formatting used for the selected style is described.

3. Since you are creating a new style, choose the New button.

   The New Style dialog box appears, as shown in Figure 3-13.

This dialog box allows you to name the style. Look at the Description box towards the bottom of the dialog box. This tells you all of the formatting that has been applied to this paragraph.

4. You are going to provide a name for this new style. In the Name box, type **subheading1** and then choose the OK button.

   The Style box shows the new style in the scrolling list.

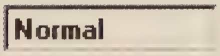
Notice the other styles in this list. These are built-in styles that you can use. We'll look at some of these later in the lesson, but for now, remember that the style you just created is called subheading1.

5. Now that you have created this style, you can apply it to the selected subhead. Choose the Apply button.

   Look at the Style box on the Formatting toolbar. The selected paragraph now uses the style subheading1.

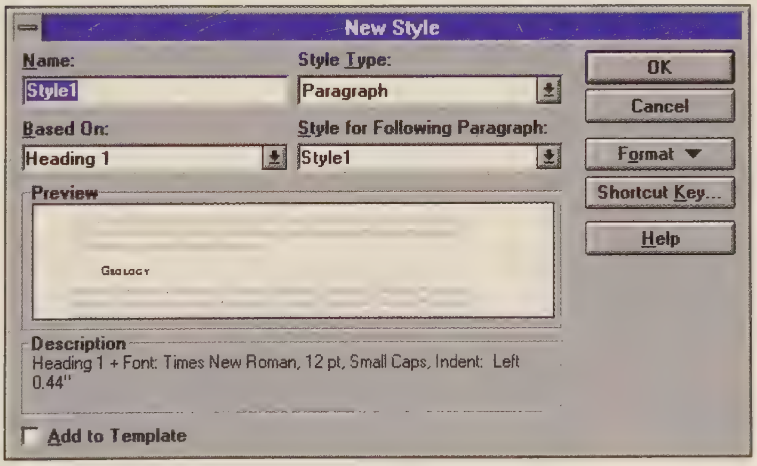
6. Now you are going to apply this new style to all of the subheadings in your document. First, click on the subhead "Atmosphere" to select it.

7. To apply your new style, display the Style drop-down list from the Formatting toolbar.



8. Scroll down the list until you see your new style, subheading1, and select it.

   Your new text style is applied to this paragraph as well.



Name: Style1

Style Type: Paragraph

Based On: Heading 1

Style for Following Paragraph: Style1

Description
Heading 1 + Font: Times New Roman, 12 pt, Small Caps, Indent: Left 0.44"

☐ Add to Template

FIGURE 3-13
The New Style dialog box allows you to specify the appearance of a new text style, which you can then use to change the appearance of selected text.

REPEATING A STYLE

While you could go on using the Formatting toolbar to apply the style to each of the remaining subheads, there is a quicker method.

You can use this shortcut to reapply the style to the remaining paragraphs.

REPEAT A STYLE

1. Under the heading “Earth,” Click on the subheading “Geology.”

   You want to repeat your last action. This command, called Repeat, is available on the Edit menu. However, accessing this command would take more steps than choosing a style from the Formatting toolbar. An easier method is to use the keyboard shortcut for this command.

2. Press Ctrl+y.

   Notice that this repeats the last action you took in your document, which was to apply the subheading1 style.

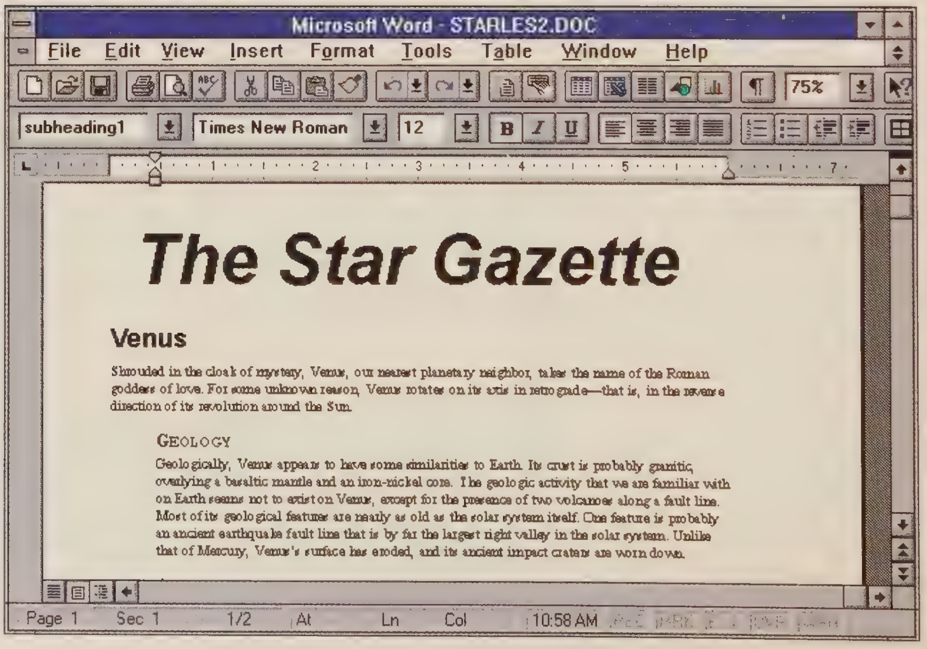
You can go on using this shortcut for the remaining subheads in your document.

3. Click on “Atmosphere” and press Ctrl+y.
4. Click on “Moons” and press Ctrl+y.

Now your article is starting to look great, as shown in Figure 3-14.

FIGURE 3-14

Your article should look like the sample shown here.



The Star Gazette

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest rift valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

MODIFYING STYLES

After looking at your article, let's say you don't like how the indented subheading paragraphs look. You can modify any aspect of the style formats, keeping the formats you still want in the style intact. One way styles can be modified is by using the Style dialog box. In the next exercise, you will modify a style using a faster method in the Formatting toolbar.

MODIFY STYLES USING THE STYLE DIALOG BOX

1. Place the insertion point in the "Geology" subheading, in the section about Venus.
2. Choose Style from the Format menu.

   The Style dialog displays.
3. To modify the selected style, choose the Modify button.

   The Modify Style dialog box now appears on your screen. You will be making a change in the paragraph formats.
4. Click the Format button to display the various aspects of this style that you can modify. You want to change the paragraph attributes of this style, so choose Paragraph from the list.

   The Paragraph dialog box displays.
5. You are going to decrease the indentation slightly. To do this, type .3 in the Left Indentation box and then choose OK.

   The Paragraph dialog box disappears and the Modify Style dialog box redisplays.
6. To accept this modification, choose OK in the Modify Style dialog box.
7. Finally, choose Close to close the Style dialog box.

   Notice that the subheading "Geology" reflects the changed indent formatting. Scroll down the document and you will also discover that all of the paragraphs with the style subheading1 have changed as well, as shown in Figure 3-15.

In modifying the style, the changes are made in every paragraph in which that style is applied. This feature will save you time since you will not have to copy the style to the remaining paragraphs manually.

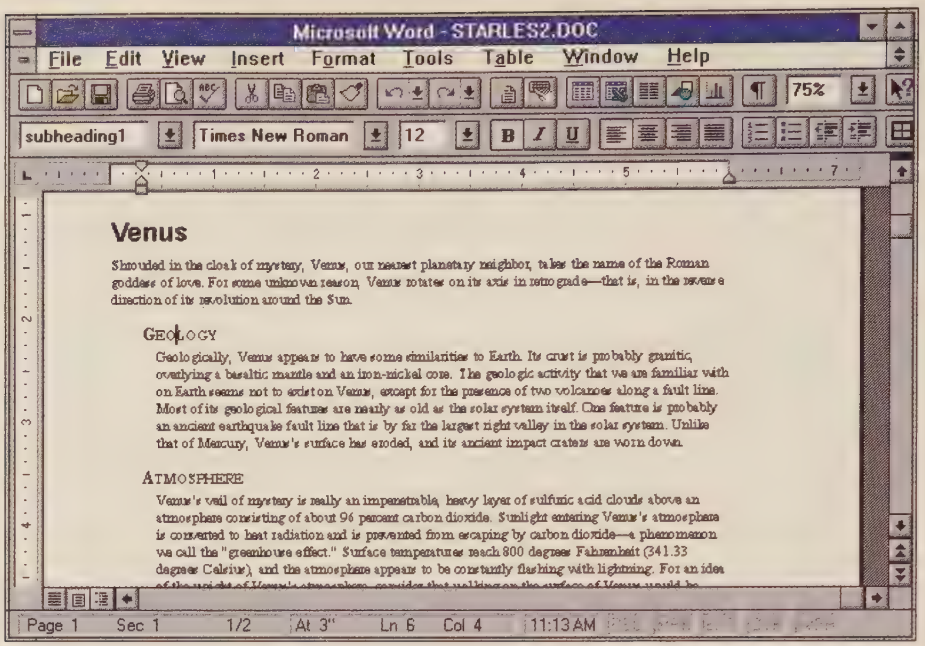


FIGURE 3-15
You have modified the text styles used by the subheads in your document.

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

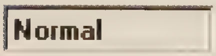
Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest right valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

ATMOSPHERE

Venus's veil of mystery is really an impenetrable, heavy layer of sulfuric acid clouds above an atmosphere consisting of about 96 percent carbon dioxide. Sunlight entering Venus's atmosphere is converted to heat radiation and is prevented from escaping by carbon dioxide—a phenomenon we call the "greenhouse effect." Surface temperatures reach 800 degrees Fahrenheit (341.33 degrees Celsius), and the atmosphere appears to be constantly flashing with lightning. For an idea

MODIFY STYLES USING THE FORMATTING TOOLBAR

There is an even faster way to modify paragraph styles. First, you will make changes in a paragraph.



1. Triple-click to select the paragraph below the heading "Venus."
2. In the Formatting toolbar, change the font to Arial.
3. Also from the Formatting toolbar, change the type size to 11.
4. You are ready to modify the style. Click the arrow next to the Style box on the Formatting toolbar.

   Notice that Body Text is the style applied to this paragraph.
5. Click Body Text.

   By choosing the same style again, you are telling Word that you want to either modify the style, or that you want to reapply the style (if you do not want to keep the changes you made).
6. Make sure the radio button next to Redefine The Style Using The Selection As An Example is selected.
7. Click OK.

   All the paragraphs with the style Body Text are modified.

ALIGNING TEXT

You can easily change text alignment (justification) in Word. The alignment buttons are on the Formatting toolbar. Let's select a paragraph and change its alignment to see how it will look. To do this, you will change the view to Page Layout.

ALIGN TEXT

1. Choose Page Layout from the View menu.

   You will be working with the Page Layout View more in Lesson 4, but for now you can see that it lets you view the document's overall appearance.

2. Select the paragraph below the subheading "Geology."

3. Click the Center button.

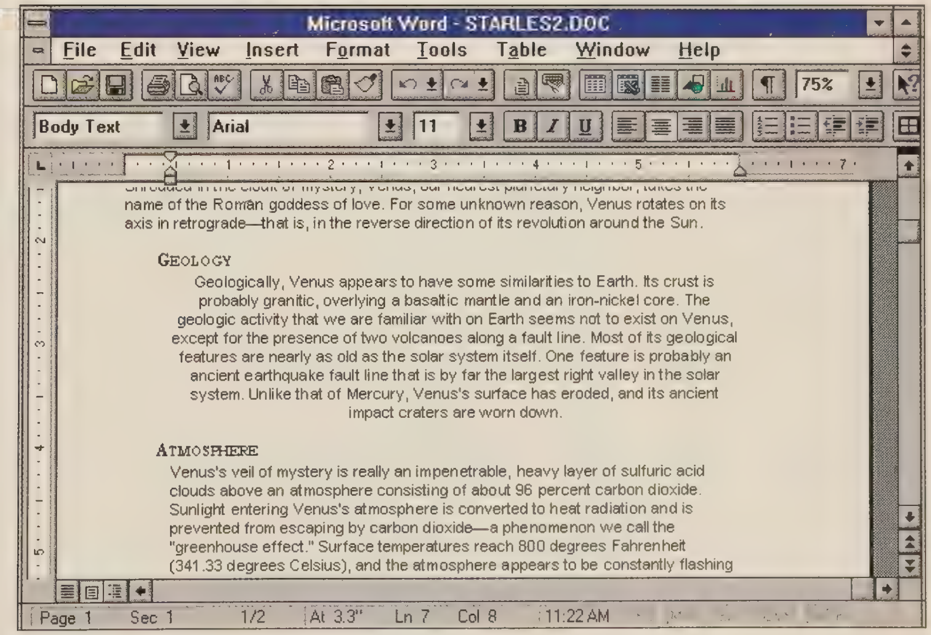
   *Notice that the paragraph text is **centered** between the indents, as shown in Figure 3-16.*

4. Click the Align Right button.

   *The text is now aligned flush **right** (against the right margin), as shown in Figure 3-17.*

FIGURE 3-16

Notice that the paragraph text is centered between the indents.


Microsoft Word - STARLES2.DOC
File Edit View Insert Format Tools Table Window Help
75%
Body Text
Arial
11
B I U
Page 1 Sec 1 1/2 At 3.3" Ln 7 Col 8 11:22 AM

name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest right valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

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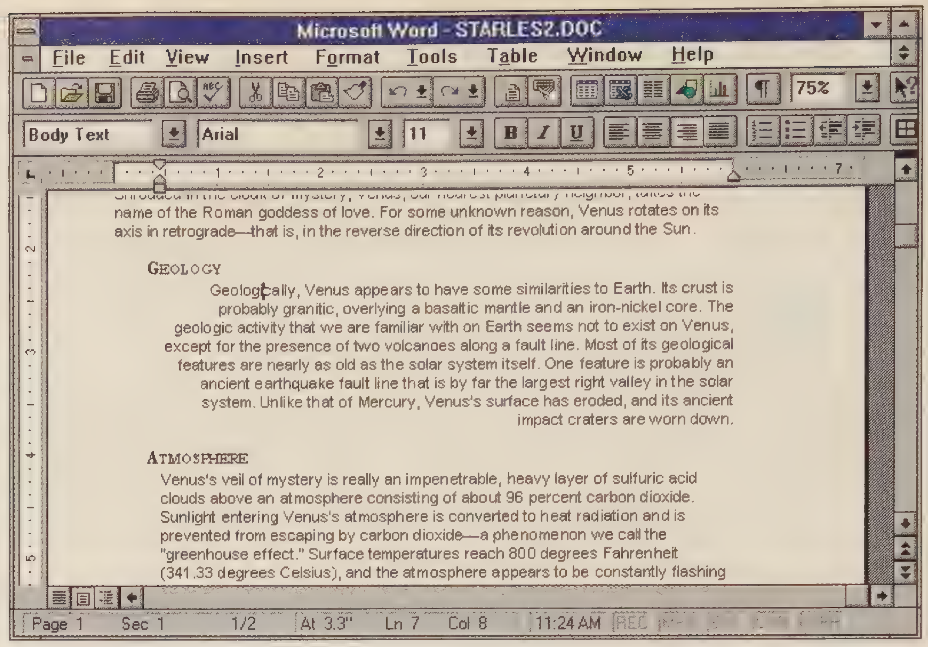
FIGURE 3-17

Notice that the text is now aligned flush right.


Microsoft Word - STARLES2.DOC
File Edit View Insert Format Tools Table Window Help
75%
Body Text
Arial
11
B I U
Page 1 Sec 1 1/2 At 3.3" Ln 7 Col 8 11:24 AM REC

name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

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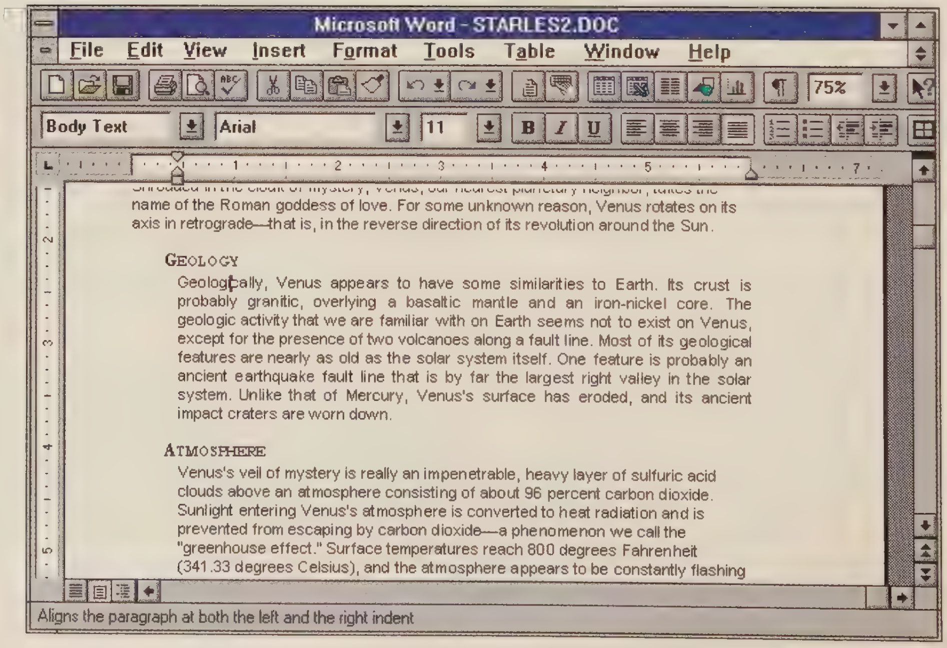
5. Click the Justify button.

   The paragraph is now ***justified****, or aligned both right and left between the indents, as shown in Figure 3-18.*

6. Select the entire document.
7. Choose the Justify button.
8. Choose Normal from the View menu.

FIGURE 3-18

Notice that the paragraph is now fully justified—aligned both right and left between the indents.


Microsoft Word - STARLES2.DOC
File Edit View Insert Format Tools Table Window Help
75%
Body Text
Arial
11
B I U

name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

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Aligns the paragraph at both the left and the right indent

Look at your document now (as shown in Figure 3-19), and remember what it used to look like. You've learned a lot about creating professional-looking documents. Here is a quick review:

- You learned to use AutoFormat to clean up your document.
- You applied predefined styles by choosing them from the Formatting toolbar.
- You applied formatting from the Formatting toolbar, from the ruler, and from the Format menu.
- You created and named new styles.
- You used the Format Painter to quickly copy formatting.
- You modified existing styles to make global changes to your document.

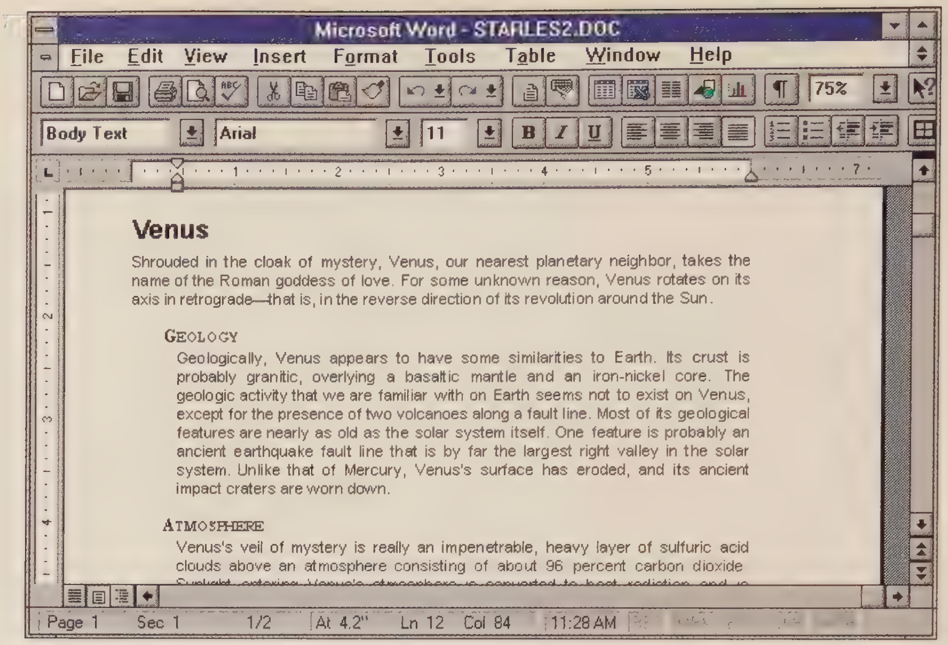
You have also learned how to apply some of the formats listed in Table 3-1. For future reference, the table includes keyboard shortcuts for each type of format.

TABLE 3-1: CHARACTER FORMATS

TO APPLY OR CHANGE	KEYBOARD SHORTCUTS
Bold	Ctrl+b
Italic	Ctrl+i
Underline	Ctrl+u
Word underline	Ctrl+Shift+w
Double underline	Ctrl+Shift+d
Subscript	Ctrl+=
Superscript	Ctrl+Shift+=
Small caps	Ctrl+Shift+k
All caps	Ctrl+Shift+a
Change case of letters	Shift+F3
Hidden text	Ctrl+Shift+h
Copy formats	Ctrl+Shift+c
Paste formats	Ctrl+Shift+v
Remove formats	Ctrl+Spacebar
Font	Ctrl+Shift+f
Symbol Font	Ctrl+Shift+q
Point size	Ctrl+Shift+p
Next larger size	Ctrl+>
Next smaller size	Ctrl+<
Up one point	Ctrl+]
Down one point	Ctrl+[

FIGURE 3-19

Your document is now complete.


Microsoft Word - STARLES2.DOC
File Edit View Insert Format Tools Table Window Help
75%
Body Text
Arial
11
B I U
Page 1 Sec 1 1/2 At 4.2" Ln 12 Col 84 11:28 AM

Venus

Shrouded in the cloak of mystery, Venus, our nearest planetary neighbor, takes the name of the Roman goddess of love. For some unknown reason, Venus rotates on its axis in retrograde—that is, in the reverse direction of its revolution around the Sun.

GEOLOGY

Geologically, Venus appears to have some similarities to Earth. Its crust is probably granitic, overlying a basaltic mantle and an iron-nickel core. The geologic activity that we are familiar with on Earth seems not to exist on Venus, except for the presence of two volcanoes along a fault line. Most of its geological features are nearly as old as the solar system itself. One feature is probably an ancient earthquake fault line that is by far the largest right valley in the solar system. Unlike that of Mercury, Venus's surface has eroded, and its ancient impact craters are worn down.

ATMOSPHERE

Venus's veil of mystery is really an impenetrable, heavy layer of sulfuric acid clouds above an atmosphere consisting of about 96 percent carbon dioxide

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Format document automatically	Choose Format, AutoFormat	Alt+o,a	🗎
Change font of selected text	Choose Format, Font	Alt+o,f *or* Ctrl+Shift+f	Times New Roman
Change type size of selected text	Choose Format, Font	Alt+o,f *or* Ctrl+Shift+f	10
Bold	Choose Format, Font	Alt+o,f *or* Ctrl+b	**B**
Italic	Choose Format, Font	Alt+o,f *or* Ctrl+i	*I*
Underline	Choose Format, Font	Alt+o,f *or* Ctrl+u	U

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Apply predefined style to selected text	Choose Format, Style	Alt+o,s *or* Ctrl+Shift+s	Normal
Copy text appearance from one text block to another	—		🖌
Change paragraph indents	Choose Format, Paragraph *or* drag indent markers on page ruler	Alt+o,p	⇤ *or* ⇥
Change spacing between paragraphs	Choose Format, Paragraph	Alt+o,p	
Create style	Choose Format, Style	Alt+o,s	
Repeat action	Choose Edit, Repeat Action	Alt+e,r	
Modify style	Choose Format, Style	Alt+o,s	Normal
Align text	Choose Format, Paragraph	Alt+o,p	≡ left ≡ center ≡ right ≡ justified

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. align	a. Type style that places line under selected text
2. font	b. Size of specified font
3. style	c. To line up all lines within paragraph
4. bold	d. Group of characters that share common appearance
5. type style	e. Group of character and paragraph formats that you can apply at once
6. font size	f. Set of character formats that emphasize selected text
7. paragraph indentation	g. Distance between left and right side of paragraph and page margins

TERMS	DEFINITIONS
8. spacing	h. Distance between lines within paragraph as well as distance between paragraphs
9. underline	i. Word feature that chooses new appearance for your document
10. AutoFormat	j. Character format that increases text thickness

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Another word for font is:

- **a.** character
- **b.** style
- **c.** typeface
- **d.** set

2. If you wanted the lines within your paragraph to line up on both the right and left, which alignment would you choose?

- **a.** center
- **b.** right
- **c.** left
- **d.** justify

3. Which menu contains the commands that change the appearance of text within your document?

- **a.** Style
- **b.** Format
- **c.** Window
- **d.** Edit

4. If you wanted to change the thickness of a selected group of characters, which style would you choose?

- **a.** double
- **b.** italic
- **c.** font size
- **d.** bold

5. Which of the following would not allow you to change the indentation of a paragraph?

   a. Choose Paragraph from the Format menu

   b. Press Alt+o,p

   c. Choose Borders from the Format menu

   d. Drag the indent mark on the page ruler

6. Which menu has a command that allows you to repeat your last action?

   a. File

   b. Edit

   c. Format

   d. View

7. Which of the following would not allow you to change the font of selected text?

   a. Choose Font from the Format menu

   b. Choose Character from the Format menu

   c. Press Alt+o,f

   d. Choose the Style drop-down list from the Formatting toolbar

8. Which character formats allow you to specify the positioning of a character on the line?

   a. text up/text down

   b. superscript/subscript

   c. text positioning buttons

   d. character placement

9. Which dialog box would you look in for a command that will change the color of selected characters?

   a. Paragraph

   b. Style

   c. Font

   d. AutoFormat

SHORT-ANSWER QUESTIONS

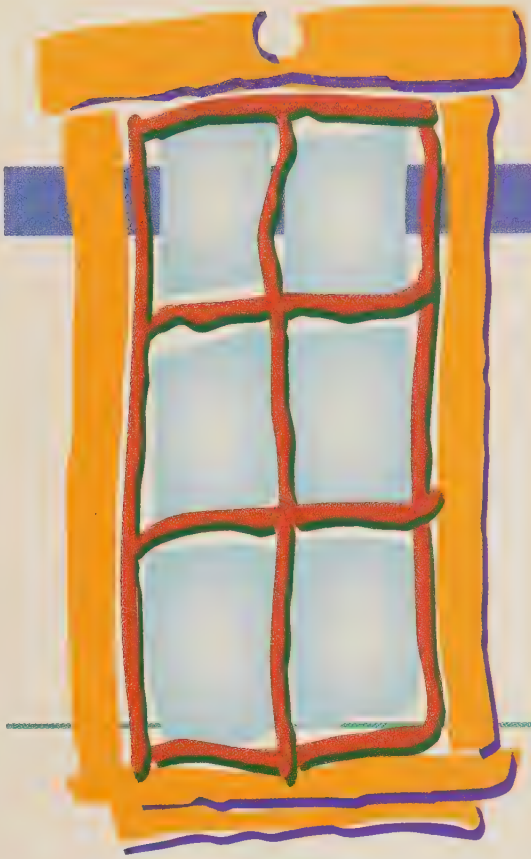
Write a brief answer to each of the following questions:

1. Can you change a style once you have applied it to your text?
2. How many available paragraph alignments are there?
3. Which dialog box allows you to set the spacing between lines of text?
4. Which dialog box allows you to change the appearance of selected characters?
5. Can you create your own styles?
6. Which paragraph format can you set using the page ruler?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Using the STARGAZE file on your Student Data Disk, create a document using the Press Release template.
2. Use the Borders and Shading command on the Format menu to change a paragraph's appearance.



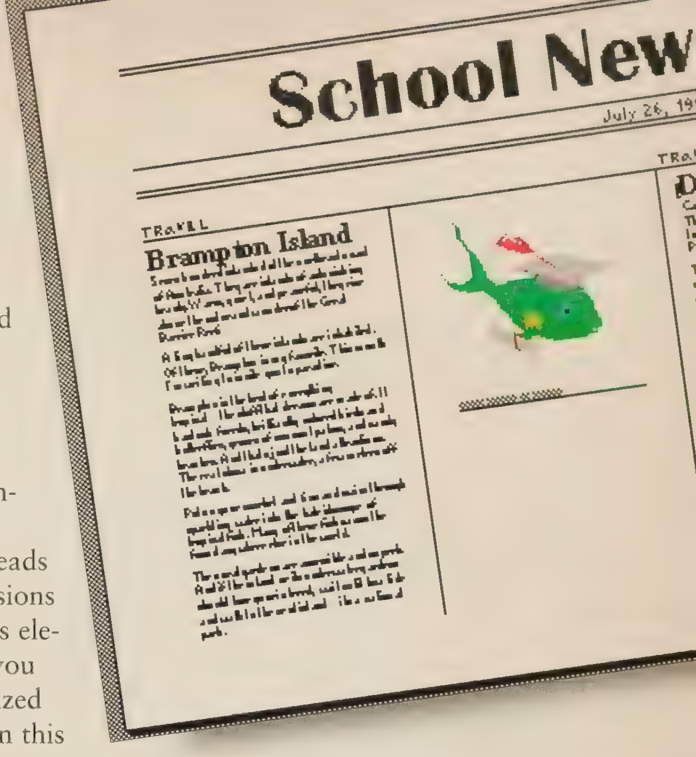
LESSON 4

CREATING A NEWSLETTER

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create a newsletter using a wizard.*
- *Bring an existing text file into your newsletter.*
- *Replace the graphic in your newsletter.*
- *Add the current date.*
- *Insert a column break.*
- *Check the spelling in a document.*
- *Change the document view.*
- *Change the page setup.*
- *Modify a style.*
- *Create a template.*



Microsoft Word makes creating any kind of document simple by providing **wizards** and templates for many popular types of documents. You worked with templates in Lesson 2. Wizards are like templates, but instead of simply presenting you with the completed template, Word leads you through a series of decisions about how you want various elements to look. This allows you to create a template customized for your specific purposes. In this lesson, you'll use the Newsletter Wizard to create a simple newsletter template. Once you have the template you want, you will replace the placeholder text with your own text and graphics, quickly creating a newsletter that is all ready to send out.

When you are comfortable using the provided templates and wizards, you will create your own template. To do this, you will take the completed newsletter and tinker with the page layout and text styles until you get the exact newsletter you want. Then you will save this newsletter to a template file you can use anytime to create a newsletter.

USING THE NEWSLETTER WIZARD

Let's start this exercise by running the Newsletter Wizard provided with Word for Windows.

USE THE NEWSLETTER WIZARD

1. If you are not already running Word, you should start the application now.

   The Word application displays on screen.

2. Choose New from the File menu.

   The New dialog box displays, listing the types of documents available within Word.

You have used this before to look at and use some of Word's template documents. This time, however, you'll be concentrating on the available wizards.

3. Scroll down the list of available templates.

Notice that several of the templates have the word Wizard *in their title, such as the Agenda Wizard and the Award Wizard.*

4. Continue scrolling down the list until you see Newslttr Wizard. Select this template and then choose the OK button.

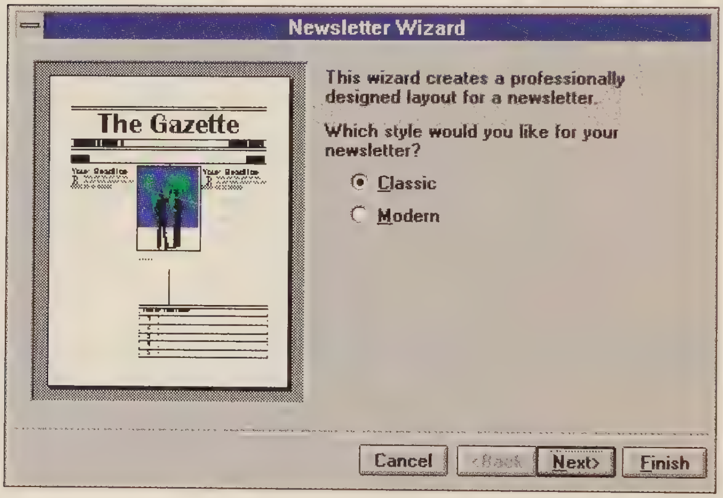
   Word takes a moment to start the Newsletter Wizard. This wizard will now lead you through a series of questions about how you want to design the newsletter.

The first question, shown in Figure 4-1, asks you what design you want for your newsletter, classic or modern. The design you select determines the appearance of the newsletter by specifying how the newsletter is laid out on the page, and which fonts are used. The wizard displays a sample of the currently selected design on the right side of the dialog box.

5. To see how the design changes the newsletter's look, choose the other design (by clicking the radio button beside it) and look at the display in the sample box. Figure 4-2 compares the two designs.

FIGURE 4-1

Word's on-line wizards lead you through the steps of creating your own masterpiece.



Newsletter Wizard

This wizard creates a professionally designed layout for a newsletter.

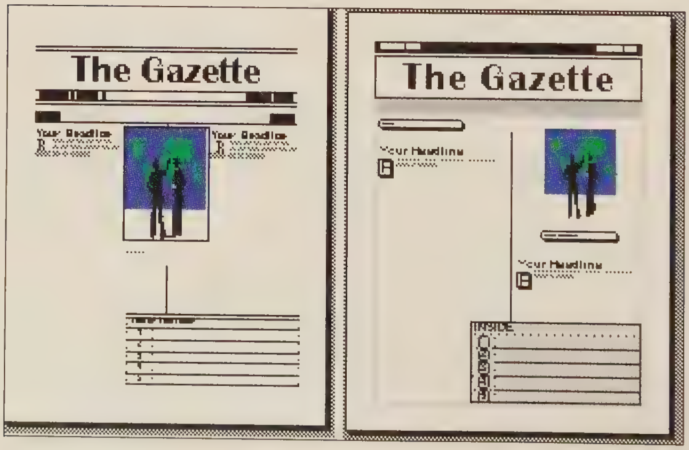
Which style would you like for your newsletter?

● Classic

○ Modern

FIGURE 4-2

Notice how easy it is to change the design of your newsletter, just by clicking on a single button.



6. For this newsletter, you will be using the Classic design. Choose the Classic design and click the Next button to move on to the next question.

7. You are next asked how many columns you want. You will be creating a newsletter with only a few stories, so you will only need two columns. Choose two to create a two-column newsletter.

   Notice how this changes the layout of the newsletter in the sample box.

8. Click on the Next button to display the next question.

9. The wizard prompts you to provide a title for your newsletter. Highlight "The Gazette" and type **School News** as the title for your sample newsletter.

   The newsletter now uses this title.

10. Choose the Next button. The wizard prompts you for the number of pages you want in this newsletter. Since this will be a fairly small newsletter, type **2** to create a two-page newsletter. If you change your mind later, you can easily add or remove pages as you are working with the newsletter.

11. Choose the Next button. You are next asked to choose which elements you want to include in your newsletter. Select the Date checkbox. If the Fancy first letter, Table of contents, or Volume and issue checkboxes are marked, click on them now to deselect them.

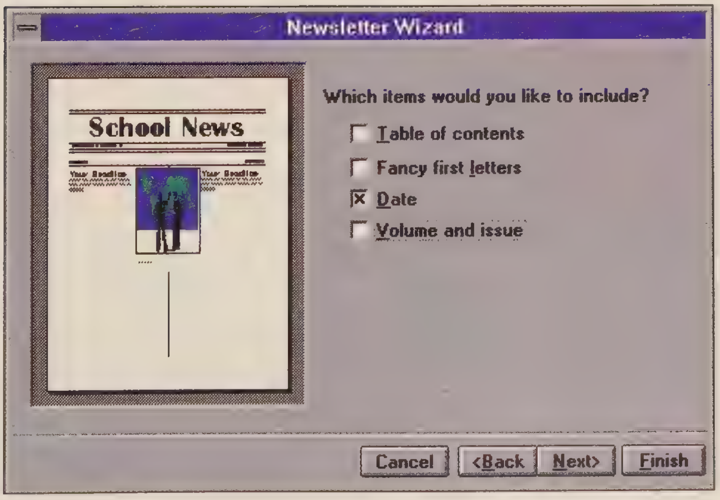
    Notice that as you select and deselect elements, the newsletter in the sample box allows you to preview how your newsletter will look with the selected elements. Figure 4-3 shows how the newsletter should look in the sample box.

12. Choose the Next button.

    You have finished making the selections needed to create a newsletter.

FIGURE 4-3

When you answer the last question about how you want your completed newsletter to look, the newsletter in the sample box should look like the following.



Which items would you like to include?

☐ Table of contents
☐ Fancy first letters
☒ Date
☐ Volume and issue

13. Before creating your newsletter, you are asked if you want Word to display its on-line help while you are working with the newsletter. Since you have this tutorial to guide you through the steps of creating your newsletter, choose *No, just display the newsletter*, but remember that you might want to be guided through the steps the first time you strike out on your own to create a new document.

14. Choose the Finish button.

    Watch as Word creates your newsletter, incorporating all of the elements that you selected. When the final document appears on screen, it should look like the preview shown in the sample box, as displayed in Figure 4-4.

ADDING TEXT

In the previous lessons in this tutorial, you have created documents by typing text in. Although this is the most common way of creating a document, it is not the only way. You may need to create a document, such as a newsletter, which incorporates existing text from several sources. In this exercise, we will show you several different ways to bring existing text into your document.

ADD TEXT FROM A FILE

1. You will first insert the text for the story on the left side of the newsletter. Select the placeholder text of this story, "Replace the text with the text for your story," by dragging across it. (Do not select the headline of the story. You will create this later.)

2. The text for this story is in the file STORY1.DOC on your Student Data Disk. Place this disk in drive A.

3. Select the Insert menu, and choose File.

    The File dialog box displays, as shown in Figure 4-5. This dialog box allows you to choose the file you want inserted into your document.

FIGURE 4-4

Your completed newsletter appears on screen exactly as it looked in the Preview box.

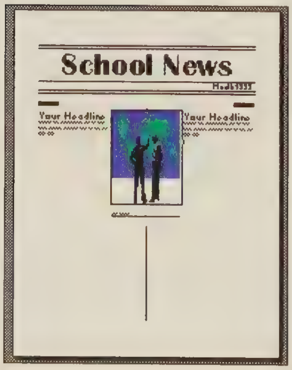
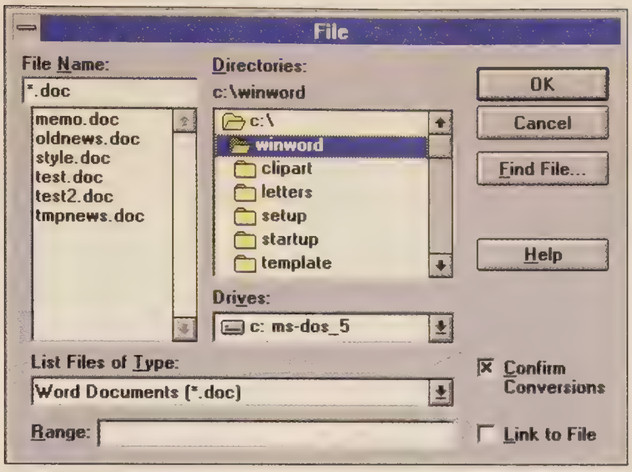


FIGURE 4-5

The File dialog box allows you to insert the complete contents of a document into another document. This is especially useful when you're bringing completed material from several sources into a single document, such as a newsletter.


File

File Name: *.doc

memo.doc
oldnews.doc
style.doc
test.doc
test2.doc
tmpnews.doc

Directories: c:\winword

c:\
winword
clipart
letters
setup
startup
template

Drives: c: ms-dos_5

List Files of Type: Word Documents (*.doc)

Range:

☒ Confirm Conversions

☐ Link to File

4. In the File dialog, select the A drive to display the files on the Student Data Disk.

   Word displays the names of all of the files on your disk.

5. Select the file STORY1.DOC and then choose OK.

   The text from the file STORY1.DOC replaces your selected text.

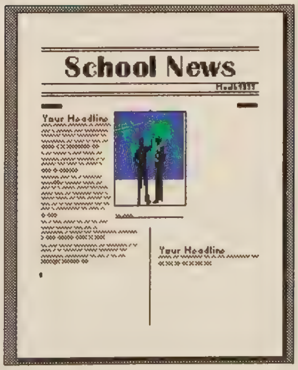
You may notice that the layout of your newsletter is now slightly disorganized. Don't worry about this for now. You will clean it up later in this lesson. Your newsletter should now look like that shown in Figure 4-6.

PASTE TEXT FROM THE CLIPBOARD

In the previous exercise, you brought the entire contents of a text file into your newsletter. You may, however, run into situations where you only want to add some of the text from a text file into your document. For example, you might want to use the opening paragraph from one story as the closing paragraph of another, or you might want a table of data to appear in several of your documents. To bring in some of the text from an

FIGURE 4-6

After adding the first story, your document looks slightly disorganized. You will fix these problems by the end of the lesson.



existing file, you copy the text you want to the Clipboard and then paste it into your document. For the next exercise, you will paste some of the text from the file STORY2.DOC into your newsletter.

1. Choose Open from the File menu.

   The Open dialog box displays.

2. Your Student Data Disk should still be in drive A. In the Open dialog box, make sure that the drive designation is still set to drive A and then select the file STORY2.DOC.

3. Choose OK.

   Word opens the file STORY2.DOC and displays its contents within the Word screen.

4. You want to include the first part of this document in your newsletter, but you don't want the second part. To bring the first part of this document into your newsletter, you will first copy the text you want to the Clipboard. Drag down the page to select from the start of the first paragraph to the end of the sixth paragraph. (As shown in Figure 4-7, your selected text block should end just above the heading "What's in a name?")

5. You are now ready to copy the selected text to the Clipboard. Choose Copy from the Edit menu.

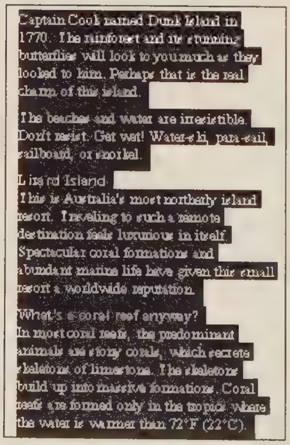
   Word copies the selected text to the Clipboard.

6. You have finished working with this text document. Close the STORY2.DOC file now by choosing Close from the File menu.

   Word closes the text document and displays your newsletter on screen.

7. You are going to replace the placeholder text in the second story with the text that is in the Clipboard. To do this, first select the text to be replaced. (This is the text block below the second headline, which should be about halfway down the second column on the page.)

FIGURE 4-7
Select the first six paragraphs in the sample document STORY2.DOC.



Captain Cook named Dunk Island in 1770. The rainforest and its stunning butterflies will look to you much as they looked to him. Perhaps that is the real charm of this island.

The beaches and water are irresistible. Don't resist. Get wet! Water-ski, para-sail, sailboard, or snorkel.

Lizard Island

This is Australia's most northerly island resort. Traveling to such a remote destination feels luxurious in itself. Spectacular coral formations and abundant marine life have given this small resort a worldwide reputation.

What's a coral reef anyway?

In most coral reefs, the predominant animals are stony corals, which secrete skeletons of limestone. The skeletons build up into massive formations. Coral reefs are formed only in the tropics where the water is warmer than 72°F (22°C).

8. Now you are ready to paste the text from the Clipboard into your newsletter. Let's try using one of the toolbar shortcuts for this operation. Choose the Paste icon from the Standard toolbar.

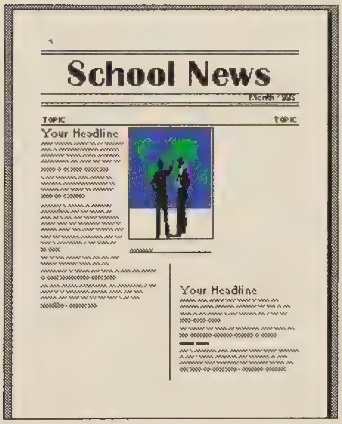
   Notice that the text from the Clipboard replaces the selected text block, as shown in Figure 4-8.

9. Use the vertical scroll bar to scroll downwards through your document.

   Notice that the text from this second story fills all of the remaining space on the first page. Because this text overflows the first page, Word automatically created a second page for your newsletter and flowed the rest of the story onto this second page.

10. Continue scrolling through your document until the second page comes into view.

    The second page of your newsletter has a page number and the name of the newsletter automatically included in the page header, as shown in Figure 4-9.



School News

TOPIC

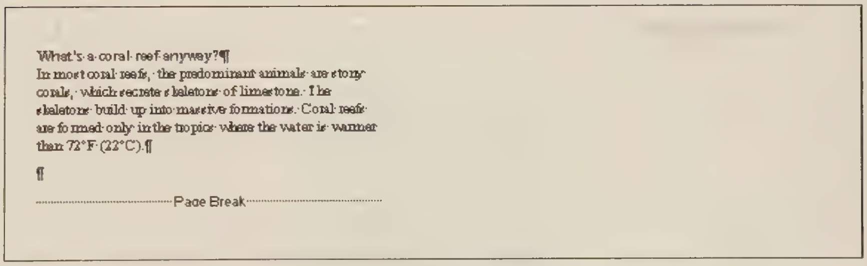
TOPIC

Your Headline

Your Headline

FIGURE 4-8

After adding the text from the second story, the first page of your newsletter should like this.



What's a coral reef anyway?¶
In most coral reefs, the predominant animals are stony corals, which secrete skeletons of limestone. The skeletons build up into massive formations. Coral reefs are formed only in the tropics where the water is warmer than 72°F (22°C).¶

¶

Page Break

FIGURE 4-9

The second page of your newsletter includes the remainder of the second story. Notice that the header spanning this page lists the page number and the name of your newsletter. Also notice the Page Break character at the end of the story.

Notice that at the end of the second story, there is a row of dashes and the words *Page Break*. This is a special character that Word uses to move all of the text after it to the next page of a document. In this case, the page break character has created a third page in your newsletter.

11. Continue scrolling through the document until you reach page three.

    You will solve all of these layout problems by the end of this lesson. But first, you will change the graphic.

ADDING GRAPHICS

You have created a newsletter with two separate stories. Now you're going to replace the graphic with a more appropriate graphic. Since the two stories in this newspaper describe life on tropical islands, you need to find a graphic to complement this theme. Word has an entire directory full of graphics called **clip art** from which you can choose an appropriate illustration.

ADD A GRAPHIC

1. First, indicate which graphic you want to replace. Since there is only one graphic in this newsletter, click anywhere within the graphic on the first page to select it.

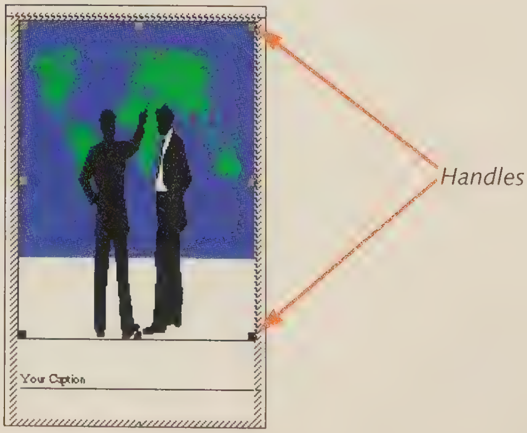
   *Notice that when the graphic is selected, small squares appear at the corners and sides of the graphic, as shown in Figure 4-10. These squares, called **handles**, allow you to change the size of a graphic.*

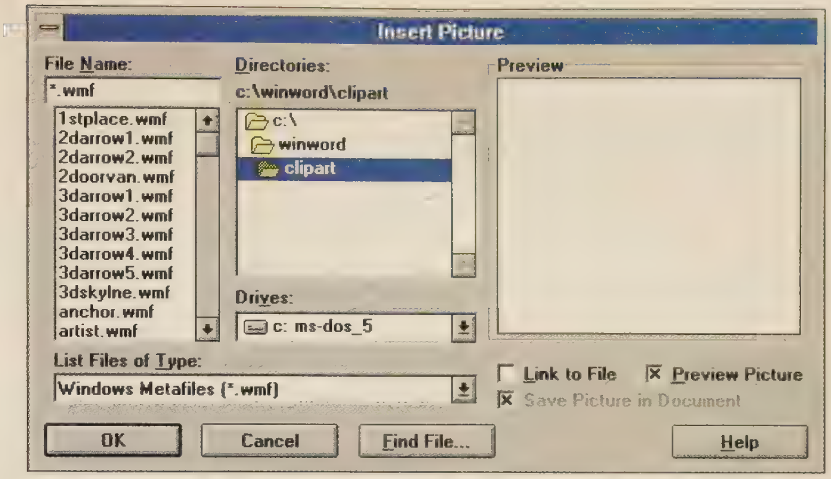
2. You're ready to select a new picture for your newsletter. Word allows you to easily see its collection of graphics whenever you specify that you want to add a picture to a document. To do this, display the Insert menu and choose Picture.

   The Insert Picture dialog box displays, as shown in Figure 4-11. It lists the clip art images available in Word's clip art directory.

FIGURE 4-10

Selecting a graphic highlights the area around it, and also displays handles around the edges of both the graphic and its frame.





File Name: *.wmf

Directories: c:\winword\clipart

Drives: c: ms-dos_5

List Files of Type: Windows Metafiles (*.wmf)

☐ Link to File ☒ Preview Picture

☒ Save Picture in Document

FIGURE 4-11

The Insert Picture dialog box allows you to easily insert a graphic into your document from Word's extensive selection of clip art images.

Before you select the picture you will be using in this newsletter, try previewing a few of the available images so you have a feel for the kind of graphics available. If you can't find the exact clip art images asked for in this exercise, just look through the clip art images you do have available.

3. Near the top of the list of available graphics, you should see a graphic called 1STPLACE.WMF. Click on this graphic to select it.

   A sample of the graphic displays in the Preview box on the right side of the dialog box. (If this graphic doesn't appear in the Preview box, make sure that the Preview Picture checkbox below the Preview box is selected.) This Preview box allows you to look at the selected graphic before deciding whether to include it in your document.

4. Let's look at another graphic. Scroll down the list until you see the graphic ATOMENGY.WFM, and select it.

   The selected graphic (a symbol for atomic energy) displays in the Preview box.

5. Let's preview one last graphic. Scroll down the list until you see the graphic NOSMOKE.WFM, and select it.

   The No Smoking symbol appears in the Preview box.

Now you are ready to find the appropriate graphic for your newsletter. Many of the available graphics might be used to illustrate your newsletter, but we have selected a graphic of a fish graduate, to tie together the two themes of school vacations and tropical islands.

6. This graphic is contained on your Student Data Disk. Place this disk in Drive A and select the A drive indicator. Scroll down the list of files until you see the graphic called SCHLFISH.WFM, and select it.

   A sample of the graphic displays in the Preview box on the right side of the dialog box.

7. You are ready to include this graphic in your newsletter. To do this, choose OK.

As shown in Figure 4-12, Word inserts the new graphic of the school fish into your newsletter, replacing the original graphic.

ADDING DATES, TOPICS, AND HEADLINES

You've added the basic elements to your newsletter—text and an illustration. Now you are ready to add the final elements—the current date, the topic headers, the headlines, and the caption.

ADD THE DATE, TOPICS, AND HEADLINES

Towards the top right side of the newsletter, Word had included a place to put the current date. You can easily have Word place today's date here, and automatically update it each time you open the file.

1. Select the date placeholder (the words "Month 1993") to replace this placeholder with the current date.
2. Word includes several different kinds of symbols you can include in your document. Display the Insert menu to see some of these special symbols.

   Break allows you to insert a page break, like the one you saw at the end of the second story in your newsletter. Page Numbers allows you to insert the page number symbol, which Word uses to print the current page number on each page of your document. Annotation allows you to add notes to a document you are reviewing and share these notes with others.
3. The fourth item on this menu, Date and Time, allows you to insert a **date symbol** into your document that Word will replace with the current date and time. This is the symbol you want, so choose the Date and Time command now.

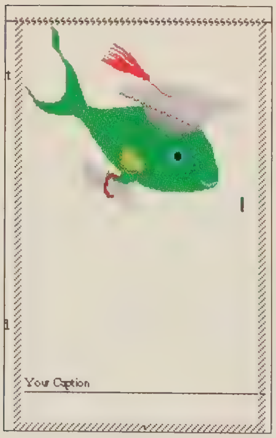


FIGURE 4-12
The clip art image you selected is now included in your newsletter.

The Date and Time dialog box displays. The list box displays the various ways you can format the current date and time.

4. Choose the fourth display option (the one in the format Month Day, Year). In order to have Word update this date each time you open or print your newsletter, select the Insert as Field checkbox.

5. Choose OK.

   Word inserts the current date into your newsletter, as shown in Figure 4-13.

You are ready to change the final pieces of placeholder text. Your newsletter includes two topic header placeholders at the top of each column. Since both of these stories involve travel to a tropical island, you will add the topic "Travel" above each one.

6. Select each of these header placeholders separately and replace them by typing **Travel**

   "Travel" now appears as the topic above each column.

7. Now, you're ready to put headlines on your stories. Select the headline above the first story (the placeholder text reads "Your Headline") and replace it by typing **Brampton Island**

   The headline "Brampton Island" now appears above the first story.

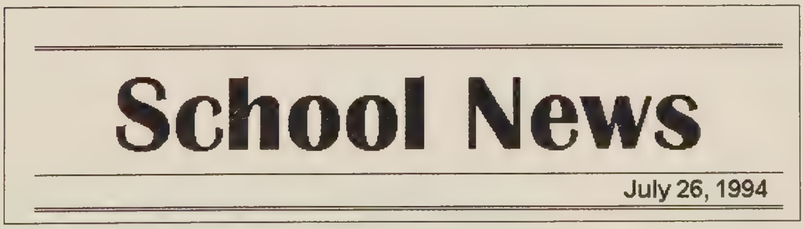
8. You are ready to add a headline to your second story. Select the placeholder "Your Headline" above the second story and replace it by typing **Dunk Island**

   The headline "Dunk Island" now appears above the second story.

9. As the final step in creating new text for your newsletter, you can add a new **caption** to your graphic. Select the placeholder "Your Caption" and replace it with your own caption by typing **Recent graduate on vacation**

   The new caption appears below the graphic.

Your newsletter is almost finished, as shown in Figure 4-14. In the next exercise, we'll show you how to put the final touches on it.



School News

July 26, 1994

FIGURE 4-13
You can place a date symbol in your document to have Word place the current date in the document each time you open or print it.

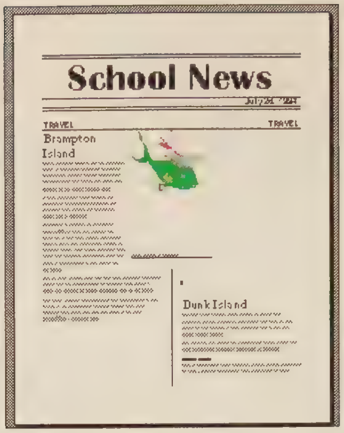


FIGURE 4-14
You have replaced all of the placeholder text in your newsletter. Now you just have to make a few finishing touches.

FINISHING UP

As you look over your newsletter, you may notice that it does not look quite finished yet. There are still several problems. First, the second story does not start at the top of the second column. In addition, there is an extra blank page at the end of your newsletter. You'll want to fix these problems before sending out your newsletter. Also, before sending it out, you will probably want to check the spelling in the two stories.

FINISH UP

You may have noticed that a lot of blank space separates the end of the first story and the start of the second story. Word separated these two stories in the template by adding several blank lines between them. Now that you've added text to these stories, the extra carriage returns look rather strange. If you can see the extra space between the two stories but cannot see the blank line markers (which are indicated by the paragraph mark symbol), you may need to change your view in order to see them. Try clicking on the Show/Hide button in the toolbar and see if they show up on screen.

In order to balance the columns more cleanly and easily, you'll replace these carriage returns with a **column break**—a special character that tells Word to place any text that follows at the top of the next text column. This type of special character is more efficient than adding carriage returns when you want to balance columns.

1. Highlight the blank lines between the end of the first story and the headline of the second story by placing the insertion point before the first carriage return, and then pressing Shift while clicking after the last carriage return. (Only select the carriage returns that appear on a line by themselves.)

   The extra carriage returns are highlighted on the screen.

2. You are going to replace these carriage returns with a column break. Like the Date character you inserted earlier, the column break special character is also available from the Insert menu. Display the Insert menu and choose the Break command.

   The Break dialog displays, as shown in Figure 4-15.

Notice that there are several different types of breaks available: page breaks, column breaks, and section breaks. You have seen page breaks earlier in this lesson. Section breaks define the boundary between two different sections of a document.

3. You are going to insert a column break. Select the Column Break radio button, and then choose OK.

   Word replaces the highlighted carriage returns with a column break. This places the first line of text after the column break at the top of the second column.

Notice that the column break is indicated on screen by a row of dashes and the words *Column Break*. Word displays this on screen to let you know you have a special character here, but this column break indicator will not appear when you print the newsletter.

4. Now, you can eliminate the **page break** at the end of the second story. Scroll the window until the end of the second story is in view, then highlight the page break indicator (a row of dashes and the words *Page Break*).

   The page break is highlighted.

5. Press [Del] to remove this page break.
6. Use the vertical scroll bar to scroll down through your newsletter and notice that the second page is no longer included.

You are ready for your final check of this document. Word provides a built-in spelling checker that will search through your entire document, comparing each word in the document to Word's internal dictionary. Word will then verify the spelling of each word that it doesn't recognize.

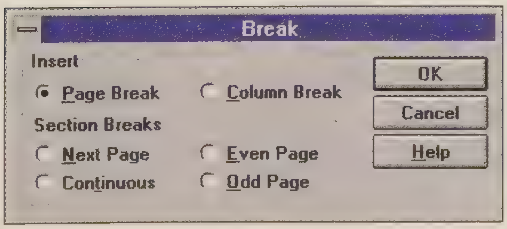
7. Before you begin the spelling check, move the insertion point to the top of the newsletter (before the words "School News").

   Most of the applications provided with Word are available on the Tools menu.

8. Display the Tools menu now.

FIGURE 4-15

The Break dialog box allows you to move all of the following text to the next page or the next column.



Notice that in addition to providing a spelling checker, Word also includes a thesaurus and a grammar checker.

9. Start the spelling check by choosing the Spelling command.

   The Spelling dialog box stops at the first unrecognized word, "Brampton," as shown in Figure 4-16. Since there are no words similar to this in the dictionary, Word does not suggest any alternate spellings.

10. Since this word is spelled correctly, and since it appears more than once in your newsletter, choose the Ignore All button to have the spelling checker ignore all further occurrences of this word.

    Next, Word stops at the word "farests." which cannot be located in its dictionary and suggests the spelling "forests" instead.

11. Choose the Change button to change to the correct spelling of this word.

    Word pauses at the word "rainforest" in the second story.

12. Choose the Ignore button to continue checking through the document.

13. Word will pause at two more words: "para" (in "para-sail") and "sail-board." Choose the Ignore button both times to indicate that the current spelling is correct.

14. Word has finished checking the spelling in your newsletter, and displays the message "The spelling check is complete." Choose OK to indicate that you got this message.

You have finished your newsletter. In the remainder of this lesson, you will use this newsletter to create a template document. Before doing this, save a copy of your completed newsletter to your Student Data Disk.

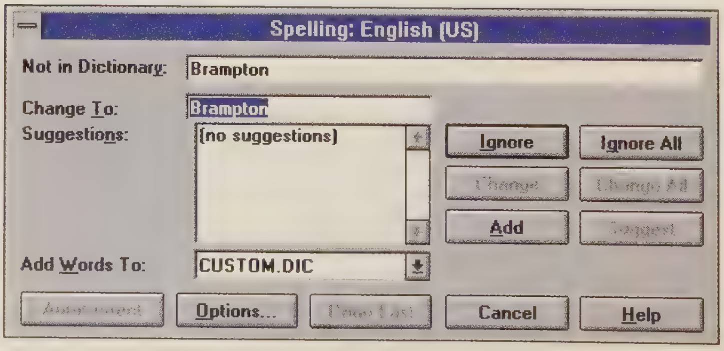
15. Place your disk in drive A.

16. Choose Save from the toolbar.

    Since you have not previously provided a name for this newsletter, Word displays the Save As dialog box to allow you to name this file and specify where you want to have it saved.

17. Specify that you want to save this file to drive A by selecting the drive A designator.

18. Type the file name MYNEWS and press OK to save your newsletter.



Not in Dictionary: Brampton

Change To: Brampton

Suggestions: (no suggestions)

Add Words To: CUSTOM.DIC

FIGURE 4-16

The spelling checker stops at the first unrecognized word. You can ignore this word, change it, or add it to your dictionary.

CHANGING THE VIEW

Before you start changing this document's layout, you will view it all at once. This enables you to preview the document exactly as it will be printed, in order to see all of the information that will be included in the final version. You can accomplish both of these goals by changing the **Page view**. By default, your document appears on screen as the same size it will print, and it displays only some of the elements in your document. You are going to decrease this **magnification** until you can see the whole page at once, and you are going to look at the **Page Layout view** of this document.

CHANGE THE VIEW

1. Display the View menu.

   The View menu displays. Notice that the first four options on the menu allow you to specify how you want your document displayed. A bullet appears next to the currently selected view.

2. Choose the Normal view of your document by selecting the first option on the View menu.

   *The **Normal** view allows you to focus on the text in your document without being distracted by the layout. Note that changing the view does not in any way change your document. It will still print the same, regardless of the view you are using.*

You can easily see the difference the Normal view makes by scrolling through your document and noting the changes in the layout. Some of these differences are pointed out in Figure 4-17.

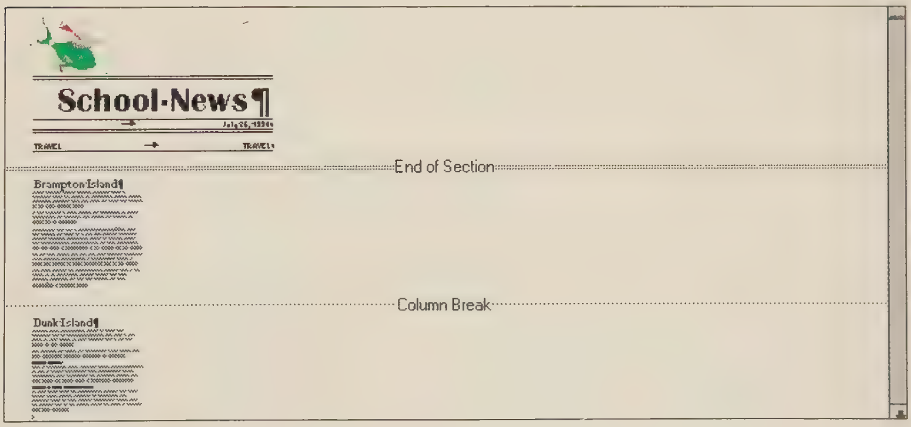


FIGURE 4-17
The Normal view allows you to easily work with the text in your document without having to work around the page layout. Notice that the graphic elements appear at the top of the document, and that the columns are indicated but not laid out. Your document will still print the same, regardless of the view you are using.

3. Scroll to the top of your document.

   Notice that your graphic now appears at the top of the page, above the banner head "School News."

4. Scroll down your document.

   Notice that your stories now appear in one long column down the page.

5. Hold down the right arrow on the horizontal scroll bar to display the far right side of the page.

   Notice that there is a solid white area to the right of your text area.

All of these changes make focusing on the text in your document easier, and may be useful when you are trying to concentrate on the text in a formatted document. However, for our purposes, it is important to be able to see the page layout elements.

Let's return to the Page Layout view.

6. Display the View menu and choose Page Layout as your view option.

   Notice that the original display has been restored.

7. Although the layout now displays on screen, it is still difficult to get a good idea of how the document looks, because only part of it is visible at once. You have to constantly scroll back and forth to get an idea of how the entire document looks. A better way of accomplishing this is to reduce the magnification of the document until it is all visible at once. Display the available magnifications by clicking on the arrow beside the current view indicator.

   Notice that several options specify the percentage of magnification used, as shown in Figure 4-18. 100% magnification displays your document at the same size as it prints. 200% magnification displays it at twice its actual size, while 50% magnification displays it at half its actual size.

Remember that these magnifications do not increase or reduce the actual size of your document, only the display size on screen.

The last three options on the menu allow you to specify the magnification without knowing the exact percentage.

8. Since we want to display the entire page at once, choose Whole Page from near the bottom of this menu.

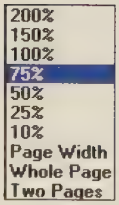


FIGURE 4-18
You can magnify or reduce the display of your document on screen by selecting the percentage at which you want it displayed, or by specifying how much of the document to fit within the application window.

The entire newsletter now appears on screen at once, as shown in Figure 4-19. Notice, however, how small the text appears. The Whole Page view is very convenient for rearranging the page, but it is clearly not the view you will use when you want to work with text.

CHANGING THE PAGE SETUP

So far, you have created a newsletter using the page layout Word provides for this template. However, sometimes you may want to tinker a little with a document's layout. For a single-page newsletter such as this, laying it out on a wider page may be more convenient, so you could assemble it as a letter-size package by folding it in thirds lengthwise. This layout is sometimes more convenient for mailing small newsletters like this.

In the following exercise, you will change the page size and examine how it affects your document.

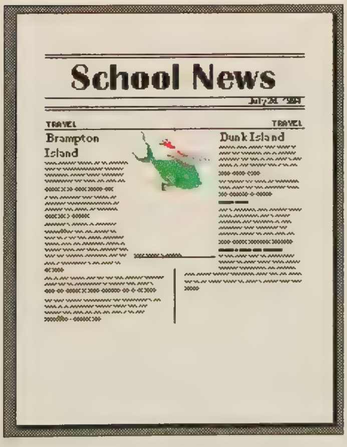
CHANGE THE PAGE SETUP

1. You might think first of looking on the Format menu when you want to change your document's **page setup**. After all, this is where you find most of the commands that change a document's appearance. However, when you want to make a global change to your document's appearance, such as changing the page size or choosing a new template, you will need to look on the File menu. Display the File menu now by clicking File in the menu bar.

   The File menu displays.

Notice that there are several commands on this menu that will change your document's overall appearance. The Template command allows you to attach a different template to your document. Since you already have your document looking close to the way you will want your final template to look, you will not need to use this command. The Page Setup command

FIGURE 4-19
If you are tinkering with the document layout, having an entire page displayed within the window at once is convenient.



allows you to change the page size, page margins, and page layout used by your document.

2. To display this dialog box, choose Page Setup.

   The Page Setup dialog box displays, as shown in Figure 4-20.

Notice the "file folder" tabs across the top of this dialog box—Margins, Paper Size, Paper Source, and Layout. Clicking on any of these tabs brings up a different set of options for your page setup. Take a moment now to examine some of the different options.

3. Choose the Margins tab from the top of the Page Setup dialog box if it is not already selected.

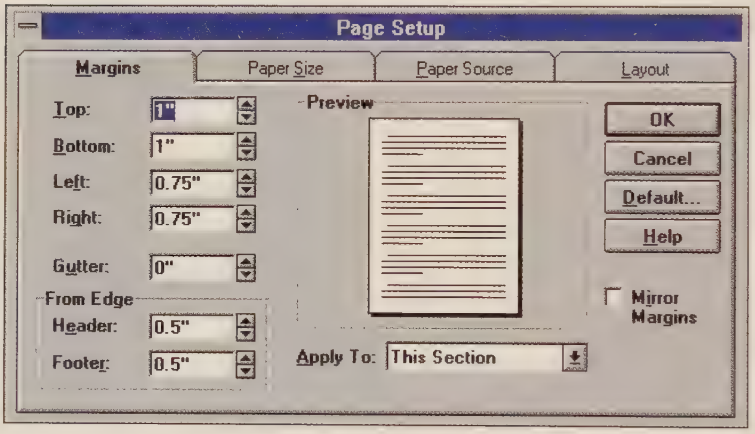
   Notice that setting the ***margins*** *determines the amount of white space between the edge of the page and the text on the page. The Preview box allows you to observe how these settings affect your page.*

4. The settings that control the page size and orientation are grouped under Paper Size. Choose the Paper Size tab from the top of the Page Setup dialog box.

   Notice that the commands in this dialog box now affect the paper size, as shown in Figure 4-21.

FIGURE 4-20

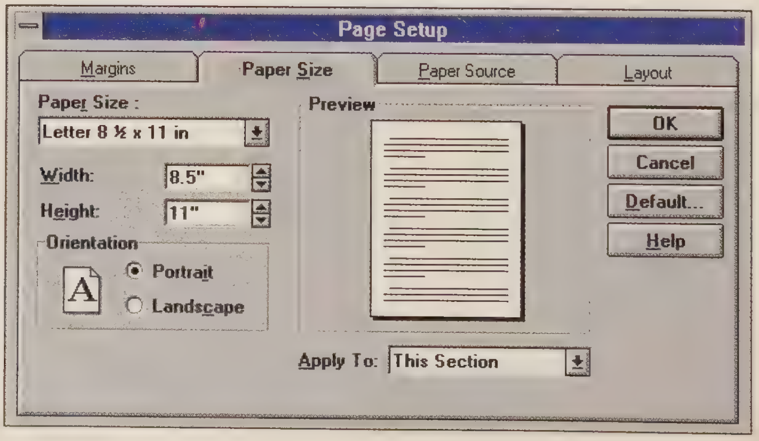
The Page Setup dialog box allows you to change the dimensions of the page beneath your document. Notice the tabs at the top of this dialog box that allow you to move between the different sets of options.



Top: 1"
Bottom: 1"
Left: 0.75"
Right: 0.75"
Gutter: 0"
Header: 0.5"
Footer: 0.5"
☐ Mirror Margins
Apply To: This Section

FIGURE 4-21

The Paper Size commands allow you to specify the size and orientation of the paper your document uses. Note that in the Preview box, the paper has a portrait orientation (that is, it is longer than it is wide).



Paper Size : Letter 8 ½ x 11 in
Width: 8.5"
Height: 11"
● Portrait
○ Landscape
Apply To: This Section

You can change the size of the paper, as well as its **orientation** (that is, whether it prints on an upright page, or whether it prints sideways on the page). The orientation is currently set to **Portrait**. This is the default orientation and prints the document on a page that is longer than it is wide (in this case, paper which is 8½ inches wide and 11 inches long).

5. Choose the **Landscape** orientation.

   The Preview box now shows that the document page is on its side—it will be wider than it is long (in this case, 11 inches wide and 8 ½ inches long), as shown in Figure 4-22. This is the orientation we will use for our document.

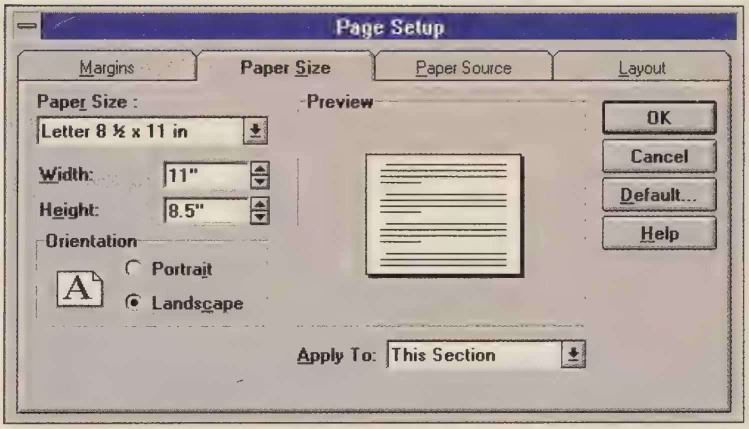
6. Notice that a drop-down list at the bottom of the dialog box allows you to choose how much of the document to apply this change to. Currently, it is set to "This Section." You want to apply this new orientation to the entire document. To do this, display the drop-down list and choose Whole Document.

7. Choose OK to change the paper size for your document.

   Your document is now laid out on a wider page, as shown in Figure 4-23. Notice that this causes it to run on to a second page. We will repair this in the next exercise.

FIGURE 4-22

When you change the page orientation to landscape, the Preview box shows a sample page that is wider than it is long.



Page Setup

Paper Size : Letter 8 ½ x 11 in

Width: 11"

Height: 8.5"

Orientation

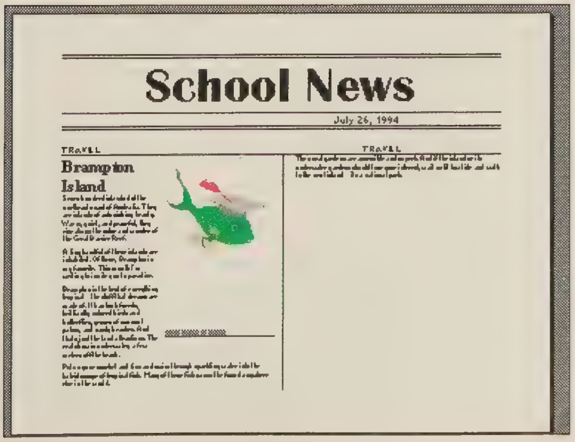
○ Portrait

● Landscape

Apply To: This Section

FIGURE 4-23

Your newsletter is now laid out in a Landscape orientation. You will clean up the rest of this document in the next exercises.



School News

July 26, 1994

TRAVEL

Brampton Island

TRAVEL

CHANGING THE NUMBER OF COLUMNS

Now that our document is on a wider page, there is considerable space left at the end of the first story, and the second story has moved onto a second page. Next, we will change the layout from two to three **columns** in order to balance our newsletter a little better.

CHANGE THE NUMBER OF COLUMNS

In this exercise, you will change a two-column newsletter into a three-column newsletter. However, before you do this, you should understand something about how Word applies layout changes to a document. As you saw in the last exercise, when you make a change to the page layout, you have to decide whether to change all the sections in your document, or only some of them. Our newsletter has two sections: one for the **banner** (the large title at the top of the newsletter), and another for the **body** of the newsletter (everything other than the banner). When we changed the orientation of our document, we wanted to change the orientation of all of the sections. When we change the number of columns, however, we only want to change the body of the newsletter and not the banner.

1. Place the insertion point anywhere within the text of the first story to indicate that this is the section you want to change.
2. Click on the Column icon in the toolbar.

   Four unhighlighted columns display in the drop-down menu.
3. Highlight the first column and do not release the mouse button.

   The words "1 column" appear at the bottom of this menu. If you were to release the mouse button now, Word would reformat your newsletter into a one column document.
4. Drag across the second and third columns to indicate that you want to create a three-column document.
5. Release the mouse button to change your document.

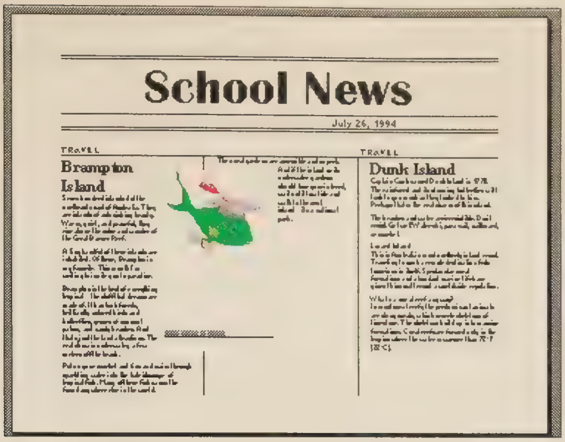
   Your newsletter is now laid out across three columns on the page, as shown in Figure 4-24.

Notice that this layout change allows you to fit both stories comfortably on one page. However, the graphic is now out of alignment. Notice also that there is too much white space at the end of the first story. You can easily solve both of these problems by repositioning the graphic into the second column.

REPOSITIONING A GRAPHIC

Word allows you to easily move graphics around within a page, and also to move graphics from one page to another. In this exercise, you will

FIGURE 4-24
Changing the page layout from two columns to three makes better use of the space on the page.



School News

July 26, 1994

TRAVEL

Brampton Island

TRAVEL

Dunk Island

reposition the graphic into the second column of the newsletter. We will show you several ways to reposition graphics.

REPOSITION A GRAPHIC

1. Select the graphic by clicking anywhere within it.

   Notice that this selects both the graphic itself, and the ***frame*** *surrounding the graphic. This frame indicates the space Word has reserved for your graphic. You want this frame to appear around the same vertical position on the page, but you want it moved to the center of the second column on the page. You can perform this operation easily and precisely by using the Frame Format dialog box.*

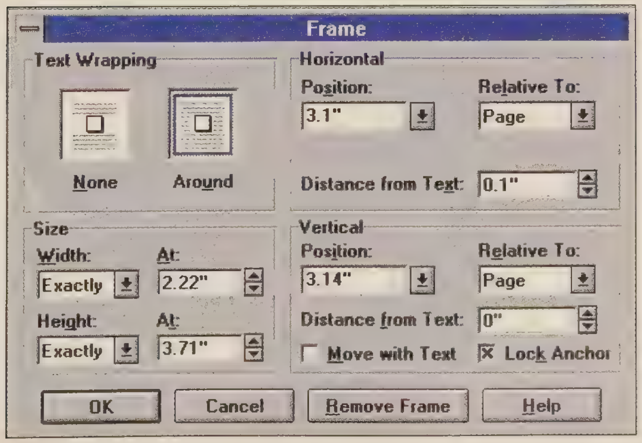
2. Display the Format menu.

   Notice that the Frame option is now available at the bottom of this menu. This option is only available when you have a frame selected.

3. Choose Frame from the Format menu.

   The Frame dialog box displays, as shown in Figure 4-25. This dialog box allows you precise control over the position of any framed object within your document.

FIGURE 4-25
The Frame dialog box allows you precise control over the placement of graphics.



Frame

Text Wrapping

None Around

Size

Width: Exactly At: 2.22"

Height: Exactly At: 3.71"

Horizontal

Position: 3.1" Relative To: Page

Distance from Text: 0.1"

Vertical

Position: 3.14" Relative To: Page

Distance from Text: 0"

☐ Move with Text ☒ Lock Anchor

Notice the area in the upper-right corner of the dialog box that includes several controls for adjusting a graphic's horizontal position on the page. These are the controls you will be using to adjust the graphic.

There are two ways of adjusting the graphic. One is to supply an absolute measurement for the new position relative to other objects. For example, you could specify that the graphic be 1 inch from the page margin. Note that this is how the graphic's position is currently described (as being at 3.1 inches on the page's horizontal ruler).

The other method is somewhat simpler. You just state how you want an object aligned relative to other objects. In this case, you will specify that you want the object centered relative to the current column.

4. Display the Position drop-down list under Horizontal and select Center.

5. Display the Relative To drop-down list under Horizontal and select Column.

6. Choose OK to accept these changes.

   Notice that your graphic is now centered nicely within the second column on the page, as shown in Figure 4-26. Notice also that the graphic caption is still in its original position. You will need to move this caption below the graphic.

7. Move the pointer over the caption until the movement pointer appears.

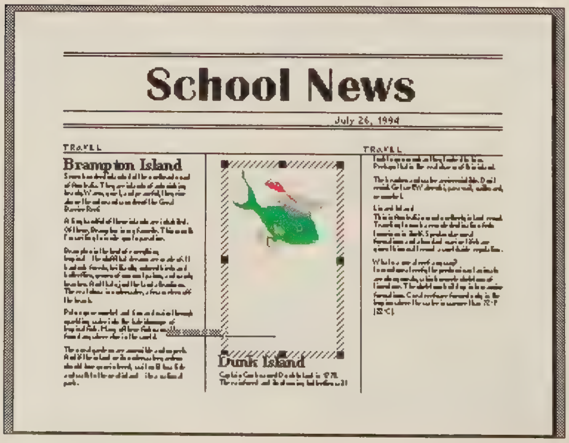
   This pointer indicates that you are correctly positioned over an object.

8. Click to select the caption, then begin dragging it towards the second column until it appears to be centered below the graphic. Then, drag it upwards in the column until it is close to the bottom of the graphic.

9. When the caption is correctly positioned, release the mouse button to move it to its new position.

   The graphic and caption are now centered in the second column.

   Notice that the second story begins directly below the graphic. It might look better if this story began at the top of the third column. Remember that you can insert a column break to accomplish this.



School News

July 26, 1994

TRAVEL

Brampton Island

TRAVEL

Dunk Island

FIGURE 4-26

After you have repositioned your graphic, it appears in the center of the second column.

10. Place the insertion point directly in front of the second story's headline.
11. Display the Insert menu and choose Break.
12. Select Column Break and choose OK.

    The second story now appears at the top of the third column, as shown in Figure 4-27.

MODIFYING A STYLE

In addition to modifying the layout your document uses, you can also change the text appearance. For example, if you wanted the stories in your newsletter to use Helvetica 9pt font, you could easily select the text of these stories and apply these text changes. However, the next time you created a newsletter using this document as a template, you would need to reapply these text changes.

A better way to make the text changes you want and ensure that these changes are duplicated in any new newsletters you create, is to change their text style. In previous lessons, you changed the appearance of a block of text by applying a different style to it. In this lesson, we will show you how to change the appearance of any text using the specified style.

MODIFY A STYLE

1. The first thing you need to do is to find out the name of the style used by the stories in your newsletter. To do this, place the insertion point anywhere within these stories.

   Notice that when you place the insertion point within the stories, the style name in the Formatting toolbar reads "Normal." This tells you that these stories are using the Normal text style.

2. Now you are ready to modify the Normal style. Display the Format menu.

   Notice that there is an entry called Style near the bottom of this menu.

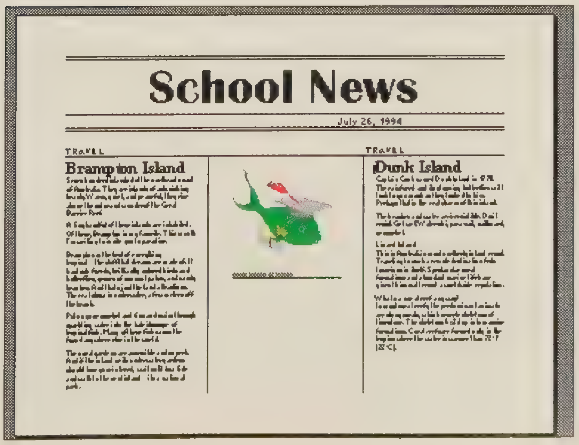

School News
July 26, 1994
TRAVEL
Brampton Island
TRAVEL
Dunk Island

FIGURE 4-27
After repositioning the caption underneath the graphic and adding a column break before the second story, your newsletter layout is almost complete.

3. Choose Style from the Format menu.

   The Style dialog box displays, as shown in Figure 4-28.

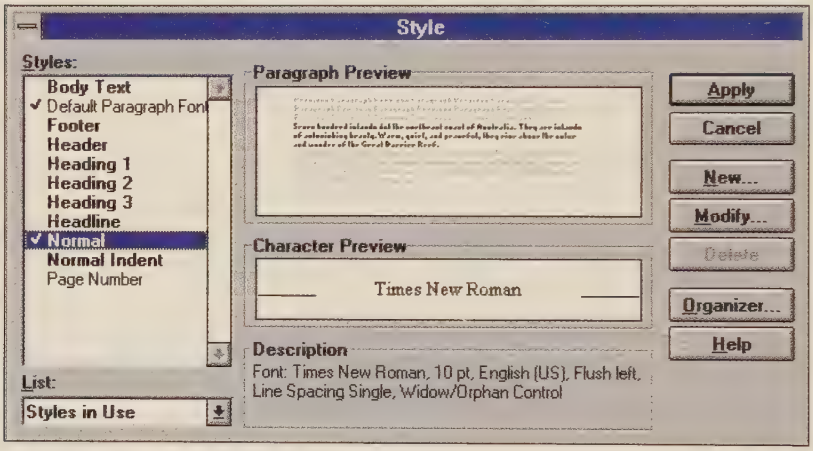
This dialog box lists the names of all of the available styles. The checkmark before the Normal style indicates that this is the style used by the text at the current insertion point location. Notice that the center column of this dialog box provides three ways of previewing this style. The Paragraph Preview box shows you how a sample paragraph will look using this style. The Character Preview box shows you how a sample piece of text will look using this style. Finally, the Description box describes the formatting used to create this style. This bottom description now tells you that the Normal style uses 10pt Times Roman type.

4. Choose the Modify button to modify this selected style.

   The Modify Style dialog box displays, as shown in Figure 4-29. This box includes additional information about the selected style. Notice that the command buttons along the right side of this dialog box allow you to modify the format of this paragraph.

FIGURE 4-28

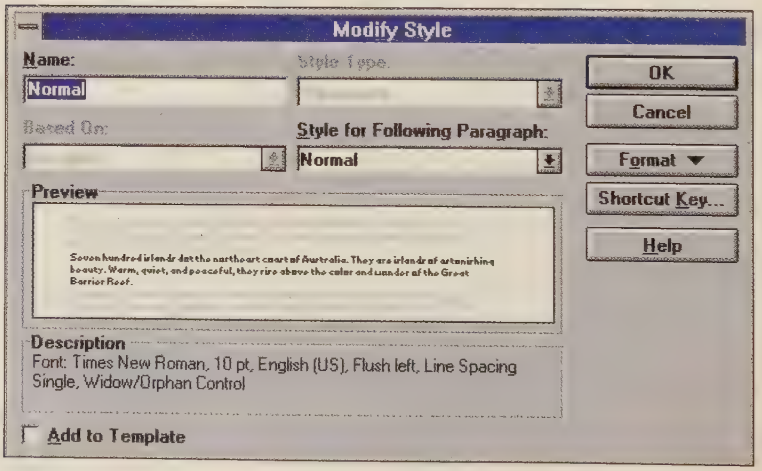
The Style dialog box allows you to examine any aspect of a text style.



Font: Times New Roman, 10 pt, English (US), Flush left, Line Spacing Single, Widow/Orphan Control

FIGURE 4-29

The Modify Style dialog box allows you to change your text styles. Any change you make will be applied to any text using that style.



Seven hundred islands dot the northeast coast of Australia. They are islands of astonishing beauty. Warm, quiet, and peaceful, they rise above the color and wonder of the Great Barrier Reef.

Font: Times New Roman, 10 pt, English (US), Flush left, Line Spacing Single, Widow/Orphan Control

5. Choose Format to display the Format drop-down list.

   Notice that you can alter many aspects of the format, including the font, the paragraph settings, and the border used by the paragraph.

6. Since you are interested in changing the font used by this style, select Font from this drop-down list.

   The Font dialog box displays, as shown in Figure 4-30. Notice that you can modify the font, point size, type style, and color of the text. The first thing you will change is the font.

7. Scroll through the list of available fonts until you find a font called Helv or Helvetica. (The exact name of the available fonts will vary, depending of the type of printer you are working with.) Once you locate this font, select it.

8. Select 9 from the list of available point sizes.

9. Choose OK to make the specified changes to the style.

   You are returned to the Modify Style dialog box.

10. Choose OK to accept the changes made so far.

    You are returned to the Style dialog box.

11. Choose Close to dismiss this dialog.

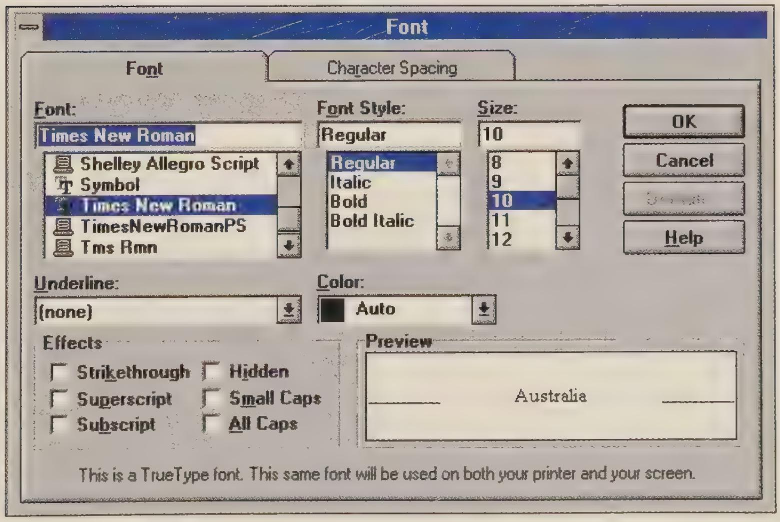
    The Formatting toolbar now lists Helv (or Helvetica) as the current font and 9 as the current point size. This change will affect not only the text appearance for the current newsletter, but also the text appearance for any document based on this newsletter.

12. In order to see how this change affects the look of your document, choose 75% magnification from the Magnify drop-down list.

    This allows you to see how this font change looks up close.

FIGURE 4-30

Using the Font dialog box, you can modify the font used in a particular text style.



Font: Times New Roman

Font Style: Regular

Size: 10

Underline: (none)

Color: Auto

Preview: Australia

This is a TrueType font. This same font will be used on both your printer and your screen.

CREATING A TEMPLATE

You are now ready to create a template document from your new newsletter. Once you have created this template, you can use it anytime you want to create a new newsletter. Before you do this, however, you may want to save your finished newsletter.

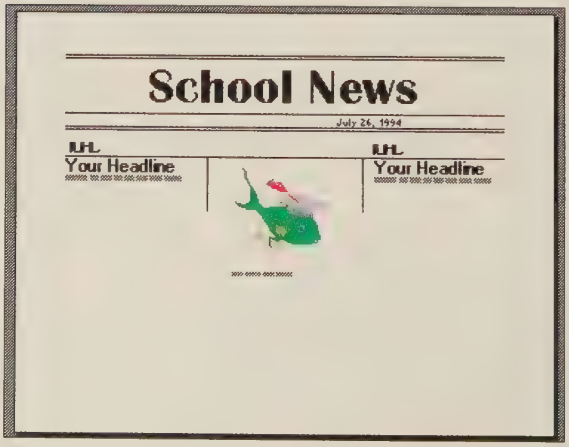
CREATE A TEMPLATE

1. If it is not there already, place your Student Data Disk in drive A.
2. Choose the Save icon from the toolbar.

   Word saves your completed document onto the disk.
3. You are ready to replace your stories with placeholder text. First, select the two topic heads that currently read "Travel" and replace them with "Topic" by typing **Topic** over each selected topic heading.
4. Select each of the headlines in your story and replace them by typing **Your Headline**
5. Select the body of the text of the first story and type **Replace this with the text from your story.**
6. Select the body of the text of the second story and type **Replace this with the text from your story.**
7. Select the caption below the graphic and type **Your caption goes here.**

   Your finished template should look like the that shown in Figure 4-31.
8. You are ready to save your new document. Choose Save As from the File menu.

   The Save As dialog box displays.
9. Display the Save File As Type drop-down list.



School News

July 26, 1994

Your Headline

Your Headline

FIGURE 4-31
When you have finished replacing the text in your document with the specified placeholder text, it will look like this sample.

Notice that in addition to being able to save your file to many popular file formats, you can also save it as a document template.

10. Select Document Template from this drop-down list.

    Notice that Word automatically shifts the directory to its template directory.

11. Choose OK to save this document.

    If you have any problems trying to save this new template, you can skip this step for now. You won't actually be using this template again in these lessons.

12. You can easily double-check this document by trying to use it. Choose New from the File menu and scroll down the list of available templates.

    Notice that your template is now included on this list.

You have finished this lesson. Choose Cancel to dismiss the New dialog and exit from Word.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Use wizard to create document	Choose File, New and select a wizard	Alt+f,n	
Add text file to your document	Choose Insert, File	Alt+i,l	
Add part of text file to your document	Copy text from another document and paste it into your document	Copy text from another document and paste it into your document	
Add clip art image to your document	Choose Insert, Picture	Alt+i,p	
Insert current date and Time	Choose Insert, Date	Alt+i,t	
Insert column break	Choose Insert, Break	Alt+i,b	
Delete page break		Select page break and Del	
Check spelling	Choose Tools, Spelling	Alt+t,s *or* F7	ABC✓

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Change to Normal view	Choose View, Normal	Alt+v,n	≣
Change to page layout view	Choose View, Page Layout	Alt+v,p	▤
Change magnification of document display			95%
Change page setup	Choose File, Page Setup	Alt+f,u	
Change number of columns	Choose Format, Columns	Alt+o,c	▥
Reposition graphic	Drag it to new location *or* choose Format, Frame	Alt+o,m	
Modify style	Choose Format, Style	Alt+o,s	Normal
Create template	Choose File, Save As, and save file as document template	Alt+f,s *or* Ctrl+s	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. File dialog box	a. Allows you to create a template customized for your specific purposes
2. Frame dialog box	b. Allows you to insert a file into your document
3. Landscape orientation	c. Special character used to move all of text after it to the next page of a document
4. Normal view	d. Lists the clip art images available in Word's clip art directory
5. page break	e. A way of displaying a document that allows you to focus on the text without being distracted by the layout.
6. Page Layout view	f. Allows you to change the appearance of the page
7. Page Setup dialog box	g. Allows you to view your document as it will eventually be printed
8. Picture dialog box	h. Page setup in which the page is longer than it is wide

TERMS	DEFINITIONS
9. Portrait orientation	i. Page setup in which the page is wider than it is long
10. wizard	j. Allows you precise control over the position of any framed object within your document

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. If you want to create a customized document, you would use a:

a. template

b. style box

c. wizard

d. on-line help

2. How would you copy some of the text from one document into another document?

a. Insert a file.

b. Insert a clip art image.

c. Copy and paste text from the Clipboard.

d. Undo a deletion.

3. Which directory contains Word's graphic images?

a. SAMPLE

b. CLIPART

c. GRAPHICS

d. PICTURES

4. Which menu allows you to place the current date in your document?

a. Tools

b. Edit

c. View

d. Insert

5. What view would you use to position graphics in your document?

a. Normal

b. Outline

c. Graphic

d. Page Layout

6. Which menu contains commands that allow you to alter the page?

a. File

b. Edit

c. Format

d. View

7. Which group of commands on the Page Setup dialog box allow you to specify the orientation of a page?

a. Margins

b. Page Size

c. Paper Source

d. Layout

8. Which page orientation would you normally use to produce a business letter?

a. Portrait

b. Landscape

c. Letter Size

d. Legal Size

9. Which menu allows you to reposition graphics on the page?

a. File

b. View

c. Insert

d. Format

SHORT-ANSWER QUESTIONS

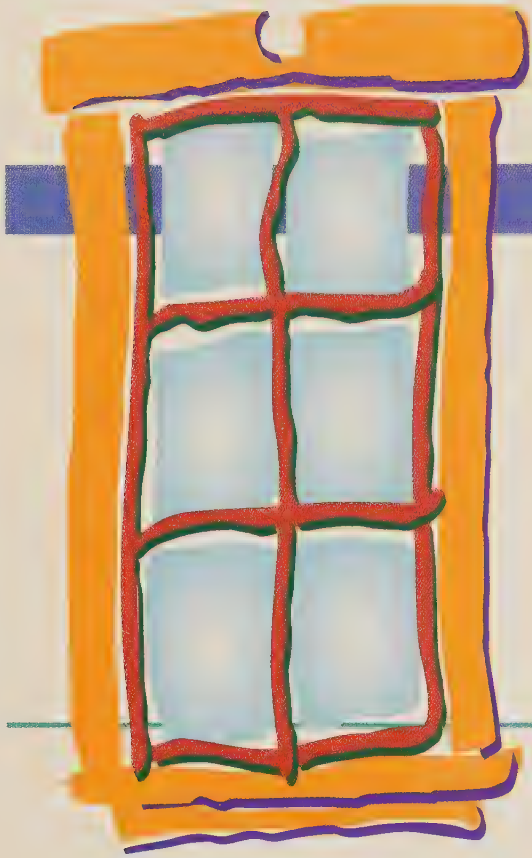
Write a brief answer to each of the following questions:

1. Describe how you would change a document from two columns to four columns.
2. Which page view would you use to quickly edit the text in a newsletter?
3. What temporary storage area do you use to copy information between two documents?
4. List two methods used to reposition a graphic on the page.
5. How would you most efficiently change all the body text in your document to italic?
6. Which dialog box allows you to open templates you have created?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Create an award for your dog, Spot, using the Award wizard. Use the Jazzy style, printed on a Landscape page with no preprinted border, and name the award “Doggy Diploma.”
2. Add the graphic GRADCAP to the award you just created.



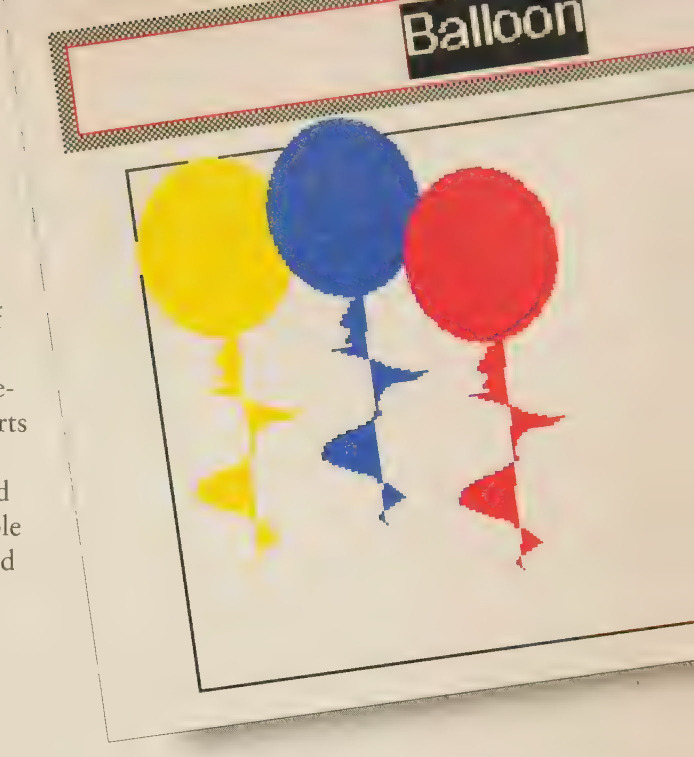
LESSON 5

WORKING WITH GRAPHICS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Draw a simple picture.*
- *Resize a graphic.*
- *Create a table.*



In previous lessons, you have brought graphics into Word using Word's extensive selection of clip art images.

However, you can also create graphics, tables, and charts easily without leaving the Word application. By the end of this lesson, you will be able to create graphics, tables, and charts within Word.

DRAWING IN WORD

By using Word's drawing capabilities, you can create pictures or edit existing graphics to add to and enhance your document. Simple drawings can be used in a letterhead or even as part of a business logo. Word is equipped with a **Drawing toolbar** that can be selected from the Standard toolbar. In this lesson, you will create a simple picture so you can become familiar with some of the drawing options available in Word.

DRAW IN WORD

1. You will first create a new document. If you have not done so already, start Word.
2. Choose New from the toolbar.

   Word creates a new document, using the default template called Normal.

3. You are ready to begin drawing. Choose the Drawing icon from the Standard toolbar.

   The Drawing toolbar appears near the bottom of the screen, as shown in Figure 5-1.

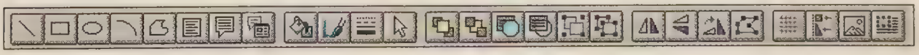


FIGURE 5-1
The Drawing toolbar allows you to create a drawing within your Word document.

Take a few minutes to look at each of the drawing tools, as you will not be using every tool in this lesson. Point at each button to see the name and function of each tool displayed in the Status bar.

As a quick overview:

- The first five icons in this toolbar create simple shapes, such as lines and squares.
- The next three icons create text boxes and callouts.
- The next four icons allow you to select and change the appearance of objects.
- The next six icons allow you to reposition and group objects.
- The next four icons allow you to flip and rotate objects and groups.
- The final four icons allow you to align your objects, to create a picture, or to insert a frame.

4. You will first be drawing a rectangle, so choose the Rectangle icon.

If you are not already in Page Layout view, a message box will appear on the screen with the message, "This action requires that you be in page layout view. Do you want to switch to page layout view now?"

In order to draw pictures in Word, you must be in Page Layout view.

5. Click OK in the message box.

In Page Layout view, you will notice both a horizontal ruler, along the top of the page, and a vertical ruler, along the left side of the page. You will use these rulers as a guide to draw a frame for your picture. Notice that the cursor is located partway down the page, at the point where the vertical ruler changes to white. The space above is the top margin of your page. Remember, in Page Layout view, you are seeing what the page looks like when printed.

6. Click the crosshair pointer over the insertion point and drag it right and down so it lines up approximately with the 3.5-inch mark on the top ruler and the 2.5-inch mark on the left ruler. Release the mouse button to create the rectangle.

   Word creates a large box on screen, as shown in Figure 5-2.

7. Next, you will create an ellipse. Choose the **Ellipse** button. (It's the third button from the left on the Drawing toolbar.)

8. Press the mouse and drag to create an ellipse in the upper-left corner of the picture box, as shown in Figure 5-3.

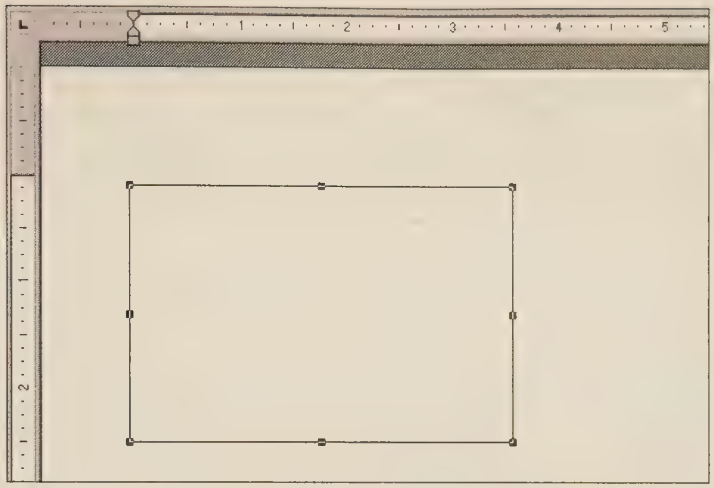


FIGURE 5-2
Your first object should look something like the one above. Notice how the object's size can be determined by looking at the horizontal and vertical page rulers.

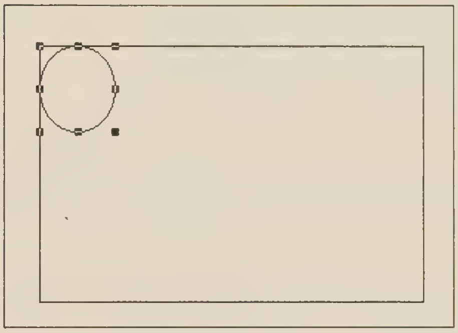


FIGURE 5-3
Drawing an ellipse in the upper-left corner of the rectangle produces a picture similar to this.

If you make a mistake while creating an object, press Del *and try again. Note that this will only work if the object is still selected.*

9. In addition to drawing geometric shapes, you can create more freeform shapes as well. The Freeform icon allows you to create freeform objects. Choose the **Freeform button** and drag to draw a shape on the bottom of the ellipse as shown in Figure 5-4. Double-click to create the object.

The ellipse and the squiggle are two separate objects, but together they form a picture of a balloon. You can group these objects together so they behave as one object when copied or moved. When an object is selected, little boxes, or handles, appear around the object.

10. The freeform line should still be selected. If not, select it now. Now, while holding down Shift, click on the edge of the ellipse you've drawn so that both shapes are selected.

Note that you may need to move your pointer around slightly to position it correctly for selecting. When it is correctly positioned, it should change into a crosshair pointer.

You should currently have two selected objects.

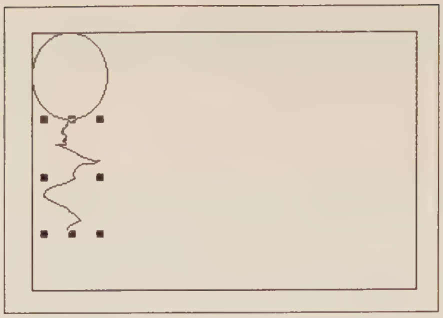


FIGURE 5-4
A freeform line adds a squiggly string to the bottom of the ellipse.

11. You are ready to join the two objects together. To do this, choose the **Group icon.**

The handles now appear around the whole object, as shown in Figure 5-5, indicating that all its components are grouped.

COPYING AND PASTING OBJECTS

The balloon you have drawn looks nice, but say you would like to make a bouquet of balloons. Instead of drawing each separately, you can use Copy and Paste to make your task easier.

COPY AND PASTE OBJECTS

1. Choose the Copy icon from the Standard toolbar, after first making sure the balloon is still selected.

   As in copying text, this places a copy of the selected object on the Clipboard.

2. You are ready to paste the object back into your picture. To do this, choose the Paste icon from the toolbar.

   The balloon you pasted appears next to the original balloon.

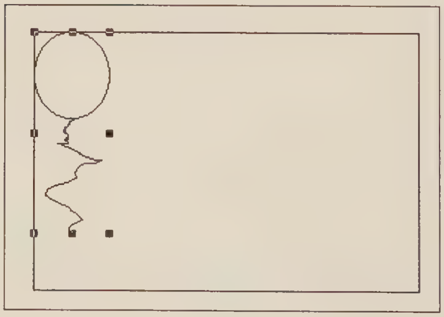


FIGURE 5-5
When two objects are grouped, the object handles appear around the entire object. This indicates that any action you take will affect all the objects that are grouped together.

MOVING OBJECTS

You can reposition objects anywhere you want on the page. Having the two balloons overlapping slightly would look nice, so you will need to move the copied balloon.

MOVE OBJECTS

1. Position the pointer on the right balloon. When the pointer changes to the crosshair pointer, drag the balloon up and to the right of the original balloon.
2. You still have a copy of the balloon on the Clipboard. Choose the Paste icon to paste another copy onto your picture, then drag it down and to the right of the second balloon.

   When you are finished, your graphic should look somewhat like that shown in Figure 5-6.

USING THE LINE TOOL

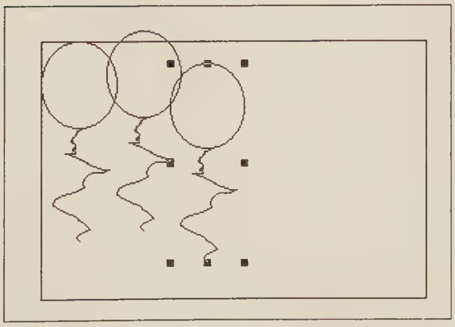
There are still other shapes you haven't experimented with. Let's try a few of them now to add some detail to your picture. In this exercise, you will draw stripes on the balloons using the line tool.

USE THE LINE TOOL

1. Choose the **Line icon** from the Drawing toolbar.
2. Click on the left side of the first balloon and drag to the right to create a stripe across the balloon, releasing when you reach the edge of the balloon.

FIGURE 5-6

After you have pasted and repositioned two copies of the balloon into the picture, it should look similar to this.



Notice that when you finish drawing a particular shape, the shape's icon becomes unselected in the Drawing toolbar.

Since you will be using the Line icon to create about five more lines, it can be inconvenient to keep on selecting the same tool. If you will be using a tool several times, it is often more convenient to **lock** the tool by double-clicking on it.

3. Double-click on the Line icon to lock it.
4. Continue drawing stripes on the remaining balloons.
5. When you are finished drawing, click again on the Line icon to deselect it.

FILLING OBJECTS WITH COLOR

Just as you can change the appearance of the text within your document, you can also change the appearance of the objects in your document. Each object has several attributes that you can alter: color of the interior (or **fill**) of the object, width of the line defining the object, and color of the line defining the object.

To enhance your picture with color and make more life-like balloons, you will use the Fill Color tool to color your balloons.

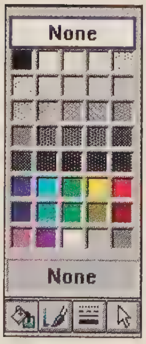
FILL OBJECTS WITH COLOR

1. Select the left-most balloon.
2. Choose the **Fill Color icon** on the Drawing toolbar.

   The available fill colors display, as shown in Figure 5-7. You can use any of these colors to color objects in your drawings, or choose None to create an object with no color.

3. Let's make the first balloon yellow. Click on the yellow color swatch.

FIGURE 5-7
You can fill the interior of your objects with any of these colors.



The balloon is filled with the color you selected. Notice that the color fills not only the inside of the balloon, but the "inside" of the freeform string as well, as shown in Figure 5-8.

4. Select the middle balloon.
5. Choose the Fill Color icon, then select the blue swatch.

   The middle balloon is now blue.
6. Finally, select the last balloon.
7. Choose the Fill Color icon, then select the red swatch.

   Your picture should look something like that shown in Figure 5-9.

CHANGING THE LINE COLOR

Look at the outline of the balloons. You will see that these outlines are black, since black is the default line color used when you draw objects. If you want the **lines** to be the same color as the objects, you will need to change the line color. You can change the line color before you create the shape, but since you copied the shape, the original line color would not match the other balloons anyway. It's easy to edit line color afterwards as well.

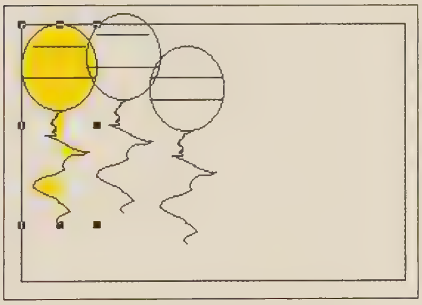


FIGURE 5-8
Filling the object with color fills both the ellipse and the grouped freeform shape.

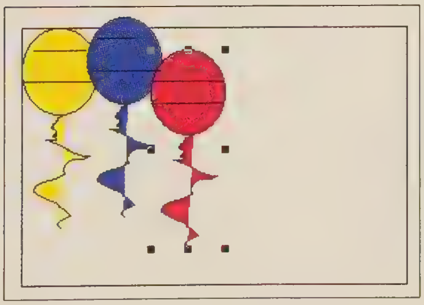


FIGURE 5-9
When you are finished coloring your balloons, they should look similar to this.

CHANGE THE LINE COLOR

1. Start by changing the line color of the yellow balloon by selecting the yellow balloon.
2. Choose the **Line Color button.**

   Notice that the Line Color dialog box looks much like that used for selecting the Fill Color.
3. Since you want to create a yellow outline for the this balloon, choose the yellow color swatch.

   The line for the yellow balloon is now yellow as well.
4. Select the middle, blue balloon.
5. Choose Line Color, then select the blue color swatch.

   Now the blue balloon also has a blue outline.
6. Select the final, red balloon.
7. Choose Line Color, then select the red color swatch.

   Your picture should now look somewhat like that shown in Figure 5-10.

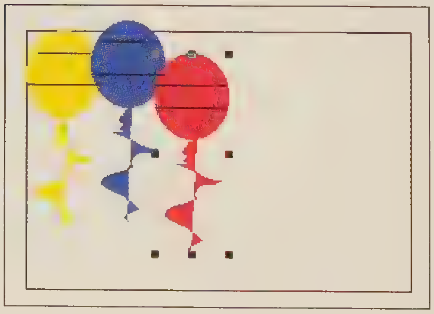
CHANGING THE ORDER OF GRAPHICS

When you place an object on the page, it is placed on top of any previously placed objects. You can see in your picture that the red balloon appears on top of the blue balloon, and that the blue balloon appears on top of the yellow balloon. You can change the order of objects on the page by moving them in front of or behind another object.

This placement on the page is often a convenient way of correcting mistakes. Imagine you decided to remove the stripes from your balloon. Although you could select each stripe and delete it, there is an easier way. Since the stripes appear on top of their respective balloons, you can make them "disappear" from the picture by moving the balloons to the front.

FIGURE 5-10

Coloring the lines of the balloons gives them a different appearance.



CHANGE THE ORDER OF GRAPHICS

1. Let's start by selecting the yellow balloon.
2. Choose the **Bring to Front icon**.

   The stripes disappear behind the balloon.
3. Select the blue balloon.
4. Choose the Bring to Front icon.

   The blue balloon also moves in front of its stripes.
5. Finally, select the red balloon.
6. Choose the Bring to Front icon.

   The balloons are now all unstriped, as shown in Figure 5-11.

CREATING A TEXT BOX

In addition to using the drawing tools to create graphics, you can also attach text or callouts to your pictures.

Let's create a text box to create a title for our picture.

CREATE A TEXT BOX

1. Choose the **Text Box button**.

   Your cursor changes to the crosshair pointer.
2. Drag the pointer to draw a box above the balloons as shown in Figure 5-12.

   Notice that the text box has a red fill. This is because it is the current fill for creating objects, since it is the last fill color you selected.

   Let's use the more traditional blank box.

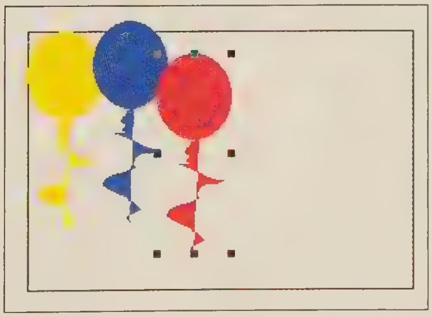
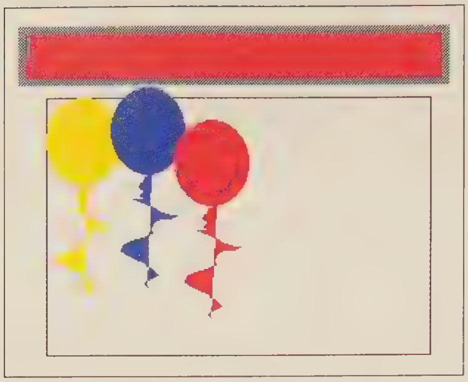


FIGURE 5-11
Moving the balloons and their strings to the front of the picture makes their stripes disappear behind them.

FIGURE 5-12
Word can also create text boxes to use with your graphic.



3. Choose the Fill Color icon and select None as the current fill color.

   The text block appears empty.

4. Type **Balloon** in the text box.

   The text looks somewhat small and misaligned in the box. Let's center it and increase its size.

5. Choose the Center icon from the Formatting toolbar to center the text in the box.

6. Now, let's change the font and point size. First, select "Balloon."

Times New Roman

7. Display the Font drop-down list and choose Helvetica.

   The text box now uses Helvetica type.

10

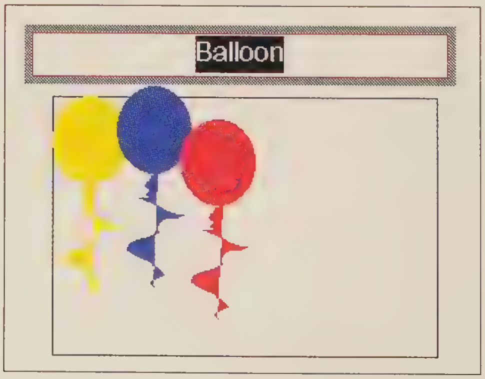
8. Display the Point Size drop-down list and choose 18.

   The text now fills the box, as shown in Figure 5-13.

CREATING A FRAME

Now that you have created a graphic, you may want to place a frame around it. A frame makes it easier to manipulate your graphic on the page.

FIGURE 5-13
The final picture should look somewhat like this.



CREATE A FRAME

1. Select all of the elements within your graphic except the horizontal stripes: the balloons, the border, and the text box.
2. Choose the **Insert Frame icon** from the Drawing toolbar.

   Word inserts a frame around the graphic.

   Notice that the "stripes" now appear outside of the graphic.
3. Select these lines and press Del.
4. Click within the frame.

   Notice the resize handles around the border of the frame, as shown in Figure 5-14. The handles on the side allow you to resize the frame vertically or horizontally, while the handles on the corners allow you to resize the frame in both dimensions at once.
5. Drag the handle in the bottom-right corner down and to the right.

   Notice that this increases the size of the graphic.
6. Try dragging the frame around on the page. Notice that all of the elements within the graphic move as you move the frame.

APPLYING A BORDER

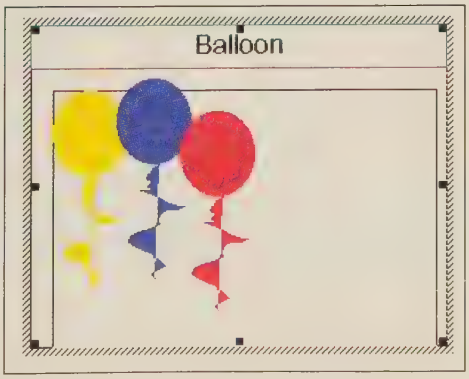
Although a frame provides structure for a graphic, it does not normally appear on the printout. However, you can make the frame appear by adding a border around it.

APPLY A BORDER

1. With the frame still selected, choose Borders and Shading from the Format menu.

FIGURE 5-14

Inserting a frame into your document inserts a small frame around the current insertion point. Note the handles on the edges of the frame. You can use these handles to resize the frame around your graphic.



The Frame Borders and Shading dialog box displays, as shown in Figure 5-15.

2. Notice that you have three different choices in borders: None, Box, or Shadow. Select the Shadow border.

   Note that the Preview box displays the selected border style.

3. You can create a line of any width around the graphic. Let's choose a mid-size line by selecting the 3pt line (a line that is 3 points wide).

   The Preview box shows a slightly thicker border.

4. You can also change the color of the border. Display the Color drop-down list and choose Cyan.

   Note the change in your sample border.

5. Choose OK to change your frame to the specified style. Your frame should look like that shown in Figure 5-16.

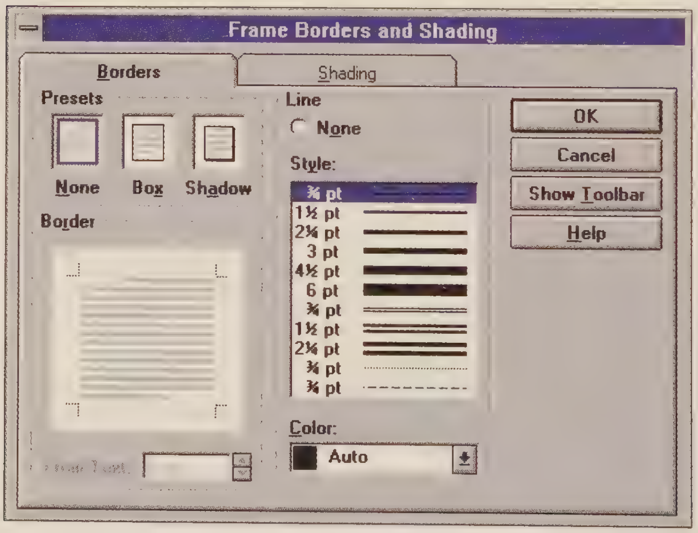
6. You have finished your work on this document. Since you won't be using it again, choose Close from the File menu, then indicate that you don't want to save your changes.

CREATING TABLES

When you need to arrange columns of numbers and/or text in a document, you can use the Table feature in Word. Instead of using tabs to create even rows and columns, using tables allows you to simply click in a cell and enter text or numbers without worrying about keeping the columns straight.

FIGURE 5-15

The Frame Borders and Shading allows you to change the appearance of frames in your document.



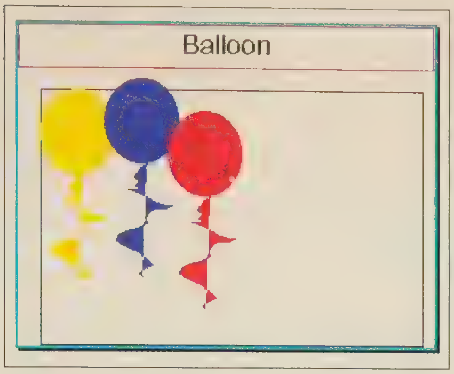


FIGURE 5-16
When you have finished formatting your frame, it should look like the example shown here.

CREATE A TABLE

You will be working in a new document to create your table.

1. Choose the New icon from the Toolbar to start a new file.

   You can place tables anywhere in a document. You need only to position the insertion point where you want the table to appear. Since this is an empty document, our insertion point is already positioned.

2. Choose the Insert Table button from the Toolbar.

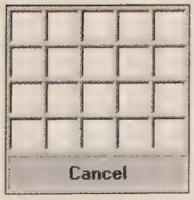
   A grid appears below the button, as shown in Figure 5-17. Each box selected across indicates the number of ***columns****, and each box selected down indicates the number of rows.*

Use the grid to determine the basic dimensions of the table. If you're not sure exactly what your table should look like, you can modify it later. To select the number of rows and columns you want in the table, you will drag over the grid. The box below the grid tells how many rows and columns the table will have.

3. Drag two columns to the right and four rows down to create a table with four rows and two columns.

   The table appears in your document at the insertion point, as shown in Figure 5-18.

FIGURE 5-17
The Create Table grid allows you to specify how many rows and columns you want in your table.



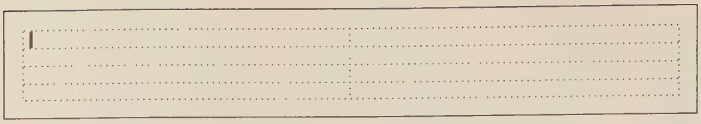


FIGURE 5-18
Your empty table should look like this.

FILLING IN A TABLE

Now, let's enter data into the table.

FILL IN A TABLE

1. Click in the first column in the first row.
2. Type **The Planets**

   Within a cell, you can move the insertion point and select text just as you do in your document. Position the insertion point by using any of the following methods: clicking in the cell with the mouse, using Tab*, or pressing the arrow keys on your keyboard.*

If you press Enter while in a cell, you will begin a new paragraph within it, so remember to use one of the three methods above to move from cell to cell.

3. Press ↓ on your keyboard to move down one cell. Type **Mercury** in this cell. Type **Venus** in the cell below it, and type **Earth** in the bottom cell.

You have now reached the end of the table, but you still have data left to enter. You will need to add rows to complete your table.

INSERT ROWS

Before you insert a new row into your table, you must first select an existing row. You can use the Insert Row command from the Table menu to insert a new row; however, by default, new rows are inserted above the selected row. Since you want to add rows to the bottom of your table, you will need to position your insertion point in the last cell of the last row and press Tab.

1. Click in the cell in the second column, last row.
2. Press Tab.

   A new row is added to the bottom of your table. You will need to add two more rows to the table.

3. Choose Insert Row from the Table menu.

   Word adds a new row to the table.

4. Press Ctrl+y to repeat the Insert Row command.

   Now you have three blank rows at the bottom of your table.

5. Click in the cell below "Earth." Fill in the rest of the column with the following: **Mars**, **Jupiter**, and **Saturn**

   (Remember to use ↓ to move to the next cell.)

6. Press → to move to the second column. Move up to the top of the column by pressing ↑. Fill in the rest of the table data:

   Miles from the Sun (in millions)

   36.2

   67.2

   92.6

   141.6

   483

   886

   When you are finished, your table should look like that shown in Figure 5-19.

FORMATTING A TABLE

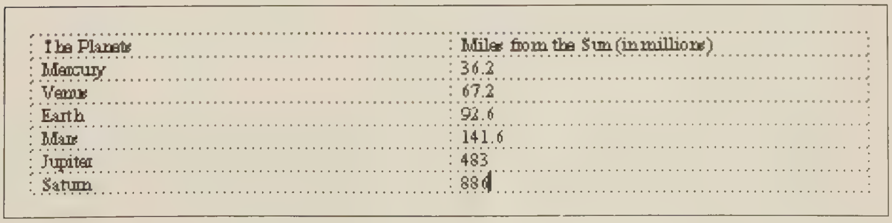
You can improve a table's appearance and readability by formatting it in the same way as you format text in a document.

Word makes this easy by providing several "canned" table formats from which to choose.

FORMAT A TABLE

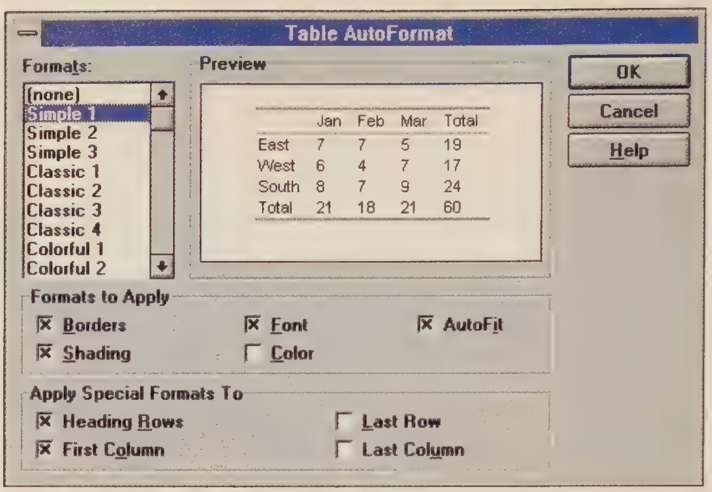
1. Choose Table AutoFormat form the Table menu.

   The Table AutoFormat dialog box displays, as shown in Figure 5-20. Here you can preview different table formats available for your table. You can, of course, set your own border specifications by using the Borders button on the toolbar, but in this exercise, you'll let Word supply a format for the table.



The Planets	Miles from the Sun (in millions)
Mercury	36.2
Venus	67.2
Earth	92.6
Mars	141.6
Jupiter	483
Saturn	886

FIGURE 5-19
Once you have entered text into your table, it should look like this.



	Jan	Feb	Mar	Total
East	7	7	5	19
West	6	4	7	17
South	8	7	9	24
Total	21	18	21	60

Formats to Apply

☒ Borders ☒ Font ☒ AutoFit

☒ Shading ☐ Color

Apply Special Formats To

☒ Heading Rows ☐ Last Row

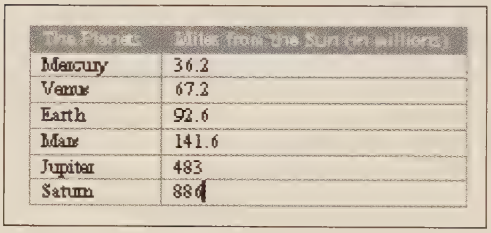
☒ First Column ☐ Last Column

FIGURE 5-20

The Table AutoFormat dialog allows you to easily format a table in a single step.

2. In the Formats list, click on a format name so you can preview it in the Preview box. Look at several Formats, keeping in mind which format might best suit your table.
3. Click on Grid 8 in the Formats list and click OK.

Your table is now formatted in the AutoFormat style Grid 8, as shown in Figure 5-21.



The Planet	Miles from the Sun (in millions)
Mercury	36.2
Venus	67.2
Earth	92.6
Mars	141.6
Jupiter	483
Saturn	886

FIGURE 5-21

Your finished table should look like this.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Show or hide Drawing toolbar			
Create line	Drag Line tool across page		╲
Create rectangle	Drag Rectangle tool across page		▭
Create ellipse	Drag Ellipse tool across page		⬭
Create freeform shape	Drag Freeform tool across page		
Select object	Click on object		
Select additional object	Click on additional object and Shift		
Move object	Drag it on page		
Fill object			
Change line color			
Bring object to front			
Attach text box			
Create frame			
Create border	Choose Format, Borders and Shading	Alt+o,b	
Create table			
Move insertion point within table	Click in cell you want to move to	Tab *or* arrow keys	
Insert row	Choose Table, Insert Row	Alt+a,i	
Format table	Choose Table, Table AutoFormat	Alt+a,f	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. Line tool	a. Color at edges of object
2. Freeform tool	b. Horizontal line of cells within table
3. Ellipse tool	c. Color within object
4. fill color	d. Drawing tool that creates straight line
5. line color	e. Squares around edges of object that allow resizing and reformatting
6. Bring to Front	f. Command that brings object to front of drawing canvas
7. handles	g. Drawing tool that creates a freeform shape
8. row	h. Vertical line of cells within table
9. column	i. Drawing tool that creates ellipse
10. group	j. Collection of objects that you can manipulate as one

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which of the following does not create geometric shapes?

a. Line tool

b. Freeform tool

c. Rectangle tool

d. Ellipse tool

2. How do you change the color of the lines around an object?

a. Select Lines from the Format menu.

b. Select the Fill Color tool.

c. Select the Line Color tool.

d. Select the Line Fill tool.

3. How do you select more than one object?

- **a.** Double-click on the second object.
- **b.** Press Alt while clicking on the second object.
- **c.** Choose Select from the Edit menu.
- **d.** Press Shift while clicking on the second object.

4. How do you join two selected objects together?

- **a.** Connect them with the Line tool.
- **b.** Choose Join from the Edit menu.
- **c.** Choose the Group icon.
- **d.** Double-click on the second object.

5. How do you "lock" a tool in place?

- **a.** Press Ctrl while selecting the tool.
- **b.** Double-click on the tool.
- **c.** Choose Lock from the Tools menu.
- **d.** None of the above.

6. How do you start a new table?

- **a.** Choose New from the Table menu.
- **b.** Choose the Insert Table button from the toolbar.
- **c.** Double-click on selected tabular data.
- **d.** None of the above.

7. Which of the following will not move you between cells within a table?

- **a.** Click in a cell.
- **b.** Press Enter.
- **c.** Press Tab.
- **d.** Press ↓.

SHORT-ANSWER QUESTIONS

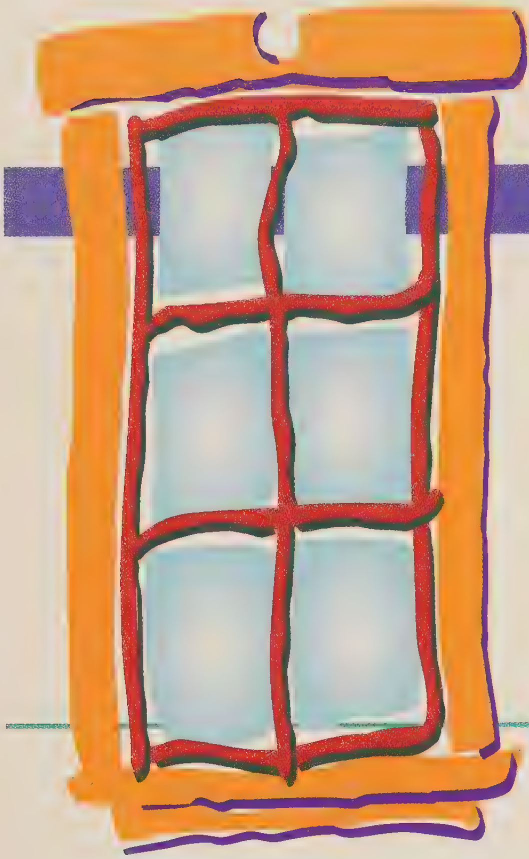
Write a brief answer to each of the following questions:

1. Can you move objects using the Clipboard?
2. Describe how you would add text to a picture.
3. List three keys that move you around a table.
4. List two of the Drawing tool shapes.
5. Can you use the same colors for the fill of an object that you use for it's border?
6. Describe two ways to add a row.

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Use the Drawing tools to create a simple landscape, experimenting with both shape and color.
2. Create a table of numbers and then select the table and choose the Insert Chart button to see how this works in Word.



LESSON 6

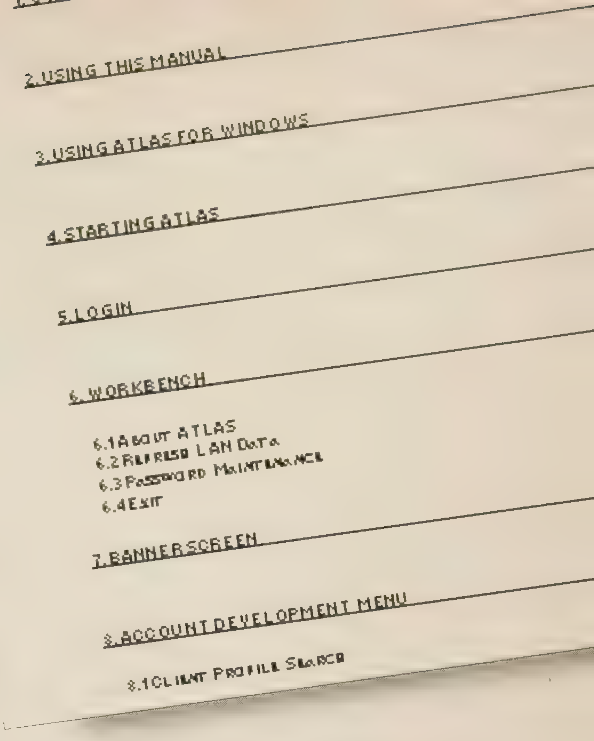
WORKING WITH LONG DOCUMENTS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Move quickly through a long document.*
- *Locate a phrase or text style anywhere in a document.*
- *Correct repeated mistakes.*
- *Number the headings in your document.*
- *Use Outline view to reorganize your document.*
- *Add page headers and footers.*

All of the exercises so far have involved working with small documents, such as letters, faxes, and newsletters. However, when you begin using Word in earnest, you may find that you need expertise in working with longer, more complex documents. This lesson will lead you through the basics of working with long documents: moving quickly to a specific place in a document, correcting repeated mistakes, rearranging sections easily, adding headers, footers, and footnotes, and numbering headers.


2.USING THIS MANUAL
3.USING ATLAS FOR WINDOWS
4.STARTING ATLAS
5.LOGIN
6.WORKBENCH
6.1About ATLAS
6.2Refresh LAN Data
6.3Password Maintenance
6.4Exit
7.BANNER SCREEN
8.ACCOUNT DEVELOPMENT MENU
8.1Client Profile Search

MOVING THROUGH A LONG DOCUMENT

When you are working with a long document, you will want to move quickly between locations. You can accomplish this with the methods you have learned so far (scrolling with the vertical scroll bar, or pressing Page Up or Page Down), but these methods are too slow and imprecise for longer documents.

A quicker method to move to a specific page is to tell Word to go directly to that page. This is the method you will be using in the following exercise.

MOVE THROUGH A LONG DOCUMENT

1. The Word application window should display on screen. If not, start the Word program by double-clicking on the Word icon.

   The Word application window displays on screen. We have provided a long document on your Student Data Disk. Locate this disk now and place it in drive A.

2. Choose Open from the File menu.

   The File dialog box displays.

3. Set the drive designator to drive A.

   The available documents on drive A display.

4. Select the file LONGDOC.DOC from the scrolling list of files and choose OK to open it.

The file LONGDOC.DOC displays on screen, as shown in Figure 6-1. Notice that the status bar indicates that you are on page 1 of 20 of this document.

5. Now it's time to move directly to the desired page in your document. Display the Edit menu.

   The Edit menu displays.

6. Choose Go To from the Edit menu.

   The Go To dialog box displays, as shown in Figure 6-2. Scroll through the Go To What list to get a good idea of how you can use these various elements to move through your document.

Notice that you can move around your document by specifying which page, line, or section you want to move to, as well as moving to some more specialized elements, such as annotations and bookmarks.

7. You will be moving to a specified page. If it is not already selected, choose Page from the scrolling list.

   This allows you to move to a specific page, or to move a specific number of pages forwards or backwards. Let's try it both ways.

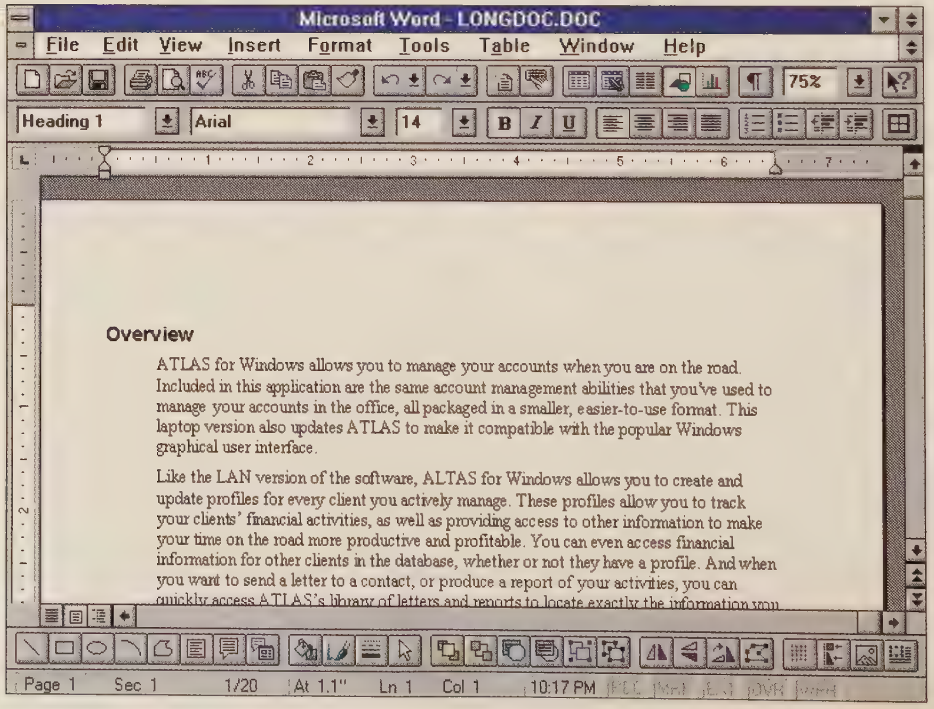
8. Enter **4** in the Enter Page Number field and choose Go To.

   Word moves you to the top of the fourth page in this document. Notice that the status bar indicates that you are now at page 4 of 20.

You can also move around a document by specifying that you want to move a certain number of pages forwards or backwards through the document.

FIGURE 6-1

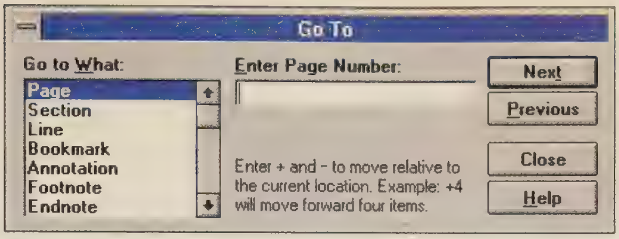
The document LONGDOC.DOC displays on screen. Notice that the status bar indicates that you are on page 1 of 20 of this document.



Overview

ATLAS for Windows allows you to manage your accounts when you are on the road. Included in this application are the same account management abilities that you've used to manage your accounts in the office, all packaged in a smaller, easier-to-use format. This laptop version also updates ATLAS to make it compatible with the popular Windows graphical user interface.

Like the LAN version of the software, ALTAS for Windows allows you to create and update profiles for every client you actively manage. These profiles allow you to track your clients' financial activities, as well as providing access to other information to make your time on the road more productive and profitable. You can even access financial information for other clients in the database, whether or not they have a profile. And when you want to send a letter to a contact, or produce a report of your activities, you can quickly access ATLAS's library of letters and reports to locate exactly the information you



Enter + and - to move relative to the current location. Example: +4 will move forward four items.

FIGURE 6-2

The Go To dialog box allows you to move quickly through your document by specifying the page, section, line, or other element to which you want to move.

9. Enter -2 in the Enter Page Number field and choose Go To.

   Word moves you backwards two pages, to the top of the second page in the document.

10. Choose Close.

LOCATING A TEXT BLOCK

You may also want to move quickly to a particular block of text, without knowing for sure which page it is on. For example, you may remember typing in a particular phrase, but not know what page you were on while typing. You can move easily to this location by having Word search for a particular word or phrase in the text block.

LOCATE A TEXT BLOCK

1. Place the insertion point at the start of the document. (This step is only necessary to follow along with this exercise. When performing an actual search, you will not need to do this because you can instruct Word to search through your entire document regardless of where the insertion point is.)

2. Display the Edit menu and choose Find.

   The Find dialog box displays, as shown in Figure 6-3.

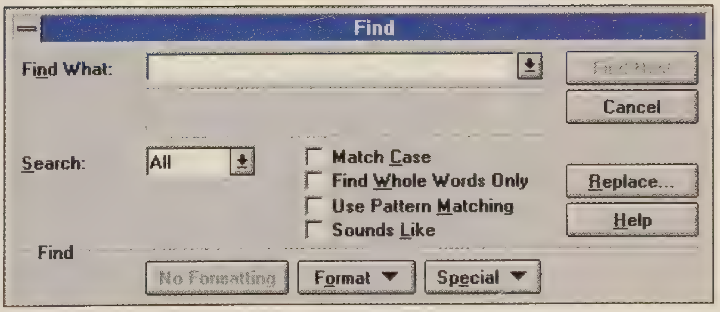


FIGURE 6-3

The Find dialog box allows you to quickly move to a specified word, phrase, or special character.

You are going to be searching for the following phrase in your document:

"**Password Maintenance** allows you to change your password."

3. Look at the sample text block you are searching for and see if you notice any words or phrases that you suspect may not appear elsewhere in the document. One such likely identifier is "Password." Search for this by typing **Password** in the Find What text field.

4. Choose Find Next to start your search.

   Word stops at the first occurrence of this search string, "passwords," at the top of the fifth page. Notice that it has highlighted the matching text in the document. However, this is "passwords" but you are searching for "password." Word stopped here because your word is a part of this word. You can fine-tune your search to solve this problem.

Notice that there are a series of settings you can use to narrow your search: Match Case, to search only for text with the same capitalization as the Find What text; Find Whole Words Only, to locate the specified text only when it is a whole word; Use Pattern Matching, to perform more elaborate searches using variables and special characters; and Sounds Like, to search for a word that sounds like the specified text, even though the spelling may be incorrect.

5. Since we want to narrow the search to "password" appearing as a word by itself, mark the checkbox beside Find Whole Words Only.

6. Choose Find Next again to continue your search.

   Word stops next at the Word "password" near the middle of the fifth page. Notice, however, that this word is not capitalized like the word you are looking for. You can ask Word to search only for words with the same capitalization as your word by choosing the Match Case option in the Find dialog.

7. Choose the Match Case option and choose the Find Next button again.

   Word next stops at the phrase "(through the use of Password Maintenance)." This is still not the exact phrase we were searching for, although Word has matched our search string exactly.

Maybe we need to do one more thing to narrow our search. Notice that the word we are searching for appears in bold type on the page. We can tell Word to search for a specific piece of text using a specific style.

8. Display the Format drop-down list, as shown in Figure 6-4. (Notice that the list actually "drops up," not down.)

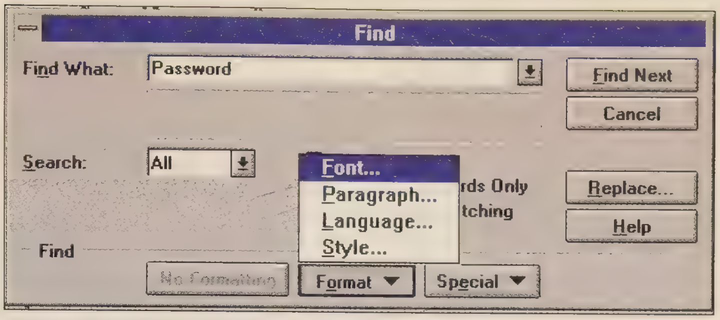
   Notice that this list allows you to specify various aspects of the search text's appearance, such as font settings, paragraph settings, language settings, and style.

9. Since bold type is a font attribute, choose Font.

   The Find Font dialog box displays, as shown in Figure 6-5.

FIGURE 6-4

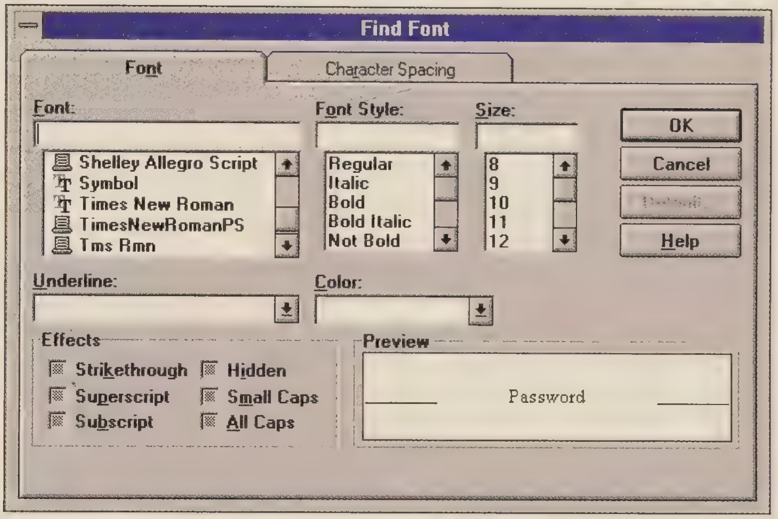
The Format drop-down list in the Find dialog box allows you to search for a particular word using a particular text appearance.


Find What: Password

Search: All

FIGURE 6-5

The Find Font dialog box allows you to search for characters using the specified font, style, size, and/or color.



Notice that this dialog box allows you to specify the font, type style, point size, color, or special formatting for the special text.

10. Choose Bold to search for bold text and then choose OK.

You are returned to the Find dialog box.

11. Choose Find Next to observe the results of this search.

Word stops at the specified text block.

12. Choose Cancel.

Once you become more familiar with the Find feature, you will select all of the appropriate checkboxes to narrow your search without having to go back and fiddle with the settings as much as you have in this exercise. We just wanted to lead you through the process of deciding which settings were appropriate.

PLACING A BOOKMARK

Now that you have located this text block, you may want to mark it somehow so that you can easily return to it whenever you like. You can do this by placing a **bookmark** in any location you want to move to easily.

Word's bookmark is just like an actual bookmark that you place in a book. Once you have placed a bookmark, you can move immediately to the marked location.

PLACE A BOOKMARK

1. You should have the word "Password" selected in your document.
2. Choose Bookmark from the Edit menu.

   The Bookmark dialog box displays, as shown in Figure 6-6.

3. Each bookmark is identified by a unique name. Let's name this one "password." Type **password** in the Bookmark Name field and then choose Add to add this bookmark.

   Word adds this to its list of passwords.

4. Now, try out your new bookmark. First scroll back to the start of the document, using any method with which you are comfortable.

   Word scrolls back to the top of the document.

5. Position the insertion point at the top of the document by clicking before the first word.

   You can move back to this bookmark using either Go To or the Bookmark dialog box. Of these two, Go To is slightly easier to use, so let's practice using this method.

6. Choose Go To from the Edit menu.

   The Go To dialog box displays.

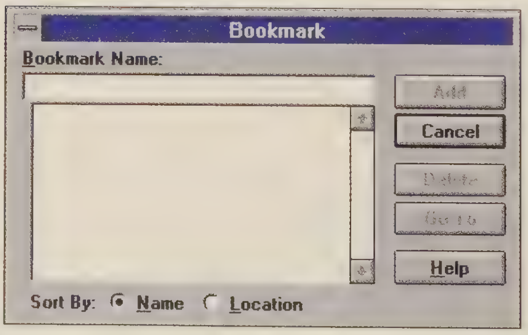
7. In the Go To What scrolling list box, select Bookmark.

   Word displays the available bookmarks.

8. Choose "password" from the drop-down list, and then choose Go To.

   Word returns you to the marked text block.

9. Choose Close.



Sort By: ● Name ○ Location

FIGURE 6-6
The Bookmark dialog box allows you to place a marker anywhere in your document, which you can return to at any time.

CORRECTING REPEATED MISTAKES

When you're working with a long document, you will often find yourself making the same mistake repeatedly. Perhaps you consistently substitute the word *numberical* for the correct spelling *numerical*, or perhaps you type *teh* when you mean to type *the*. Whatever the mistake, you can easily go back and replace the incorrect word with the correct word everywhere it appears in your document by using the Find and Replace command.

In addition, for your most recurrent mistakes, you can tell Word to correct them automatically as you're typing.

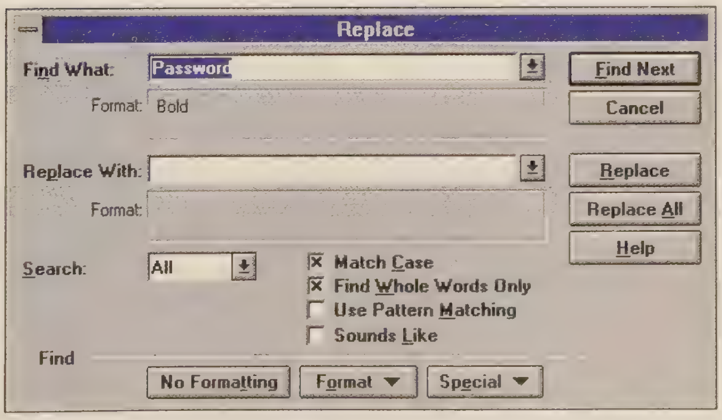
You will be learning about both of these commands in the next exercise.

CORRECT EXISTING MISTAKES

Your sample document involves a product called ATLAS, but as you scroll through the document, you may have noticed that it is repeatedly called ALTAS. You can easily search through and correct this mistake.

1. Move the insertion point to the beginning of your document by scrolling to the top of your document and clicking before the first word.
2. Choose Replace from the Edit menu.

   The Replace dialog box displays, as shown in Figure 6-7. Notice that this dialog box is very similar to the Find dialog box you used earlier. In fact, it still has the same settings you used in your previous search.
3. In the Find What text field, type the incorrectly spelled word—**ALTAS**.
4. In the Replace With text field, type the correct spelling—**ATLAS**.
5. Since you want to find this word wherever it appears, clear the checkbox next to Whole Word Only.
6. Currently, Word is searching only for this word in bold type. You can make it search for all occurrences of the word by choosing the No Formatting button from the bottom of the dialog box. This clears all of the formatting settings used in the previous search.



Find What: Password
Format: Bold
Replace With:
Format:
Search: All
☒ Match Case
☒ Find Whole Words Only
☐ Use Pattern Matching
☐ Sounds Like

FIGURE 6-7
The Replace dialog box allows you to search for a word, style, or phrase, and replace it every time it appears in your document.

7. You are ready to begin your search. Choose the Find Next button to find the first occurrence of this misspelling.

   Word finds the first error on the first page of your document.

8. Choose the Replace button to replace this misspelling and continue searching through the document.

   Word next stops on the third page. Notice that the word it has stopped at, "ALTAS's," contains ALTAS as only part of the complete word. This match was made because we cleared the Whole Words Only checkbox.

9. Choose the Replace button to correct this mistake and continue searching.

   Word finds two more misspellings on the third page.

Clearly, this word is frequently misspelled in this document. If you suspect that you will have to make the same correction repeatedly, and if there is little chance that a word will be changed by mistake, you can ask Word to replace every occurrence without having to approve each one.

10. Choose the Replace All button.

    After a few moments, dialog appears informing you that Word has made 15 replacements of the misspelled word throughout your document.

11. Choose OK to dismiss this dialog.

12. Choose Close.

CORRECT MISTAKES AS YOU TYPE

Instead of waiting until after you make a mistake to correct it, Word allows you to specify that you want certain mistakes corrected as you make them. You can do this by using **AutoCorrect**.

1. Move your insertion point to the end of your document by scrolling to the end and clicking after the last word in the last sentence.

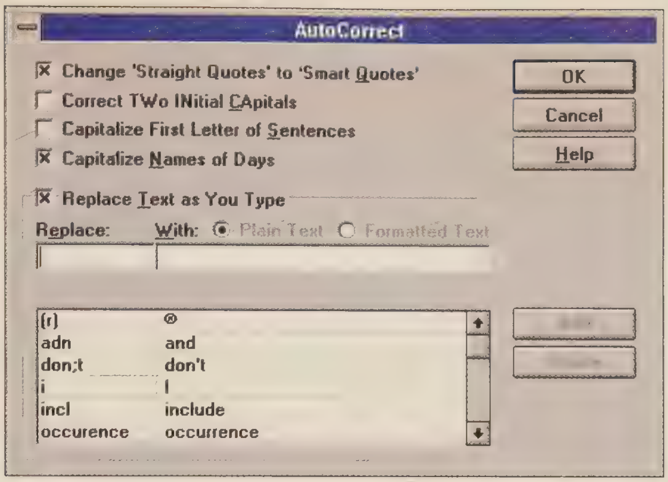
2. Press Enter twice to start a new paragraph.

3. Choose AutoCorrect from the Tools menu.

   The AutoCorrect dialog box displays, as shown in Figure 6-8.

Notice that the scrolling list in this dialog box already contains several common misspellings and their correct versions. Why don't you try one of these out now. Notice that one of the listed corrections is that Word will replace the word *adn* with the word *and* if you mistype it.

4. Choose the Cancel button to dismiss the AutoCorrect dialog box without making any changes.



☒ Change 'Straight Quotes' to 'Smart Quotes'
☐ Correct TWo INitial CApitals
☐ Capitalize First Letter of Sentences
☒ Capitalize Names of Days

☒ Replace Text as You Type
Replace: With: ● Plain Text ○ Formatted Text

Replace	With
(r)	®
adn	and
don;t	don't
i	I
incl	include
occurence	occurrence

FIGURE 6-8
The AutoCorrect dialog box allows you to alert Word of the mistakes you might make—before you make them.

5. Type the following sentence with the misspelling left intact: **I went to the store with Hugh adn Dave**

   Notice that as soon as you type the space after the misspelled word adn, *Word automatically corrects it to read* and.

You can enter your own frequently misspelled words into the AutoCorrect dialog box to have Word make these corrections automatically for you. Let's try this now with the word *ATLAS*.

6. Choose AutoCorrect from the Tools menu.

   The AutoCorrect dialog box displays.

7. Type **ALTAS** in the Replace field.
8. Type **ATLAS** in the With field.
9. Choose Add to add this word to your list.
10. Choose OK to accept these changes.
11. Now, try misspelling the word *ATLAS* in the following sentence: Type the following, with the misspelling left intact: **The ALTAS program allows you to keep track of your important accounts.**

    Notice that Word replaces the misspelled word with the correct spelling as soon as you finish typing the word.

NUMBERING HEADINGS

When you are working in a long document, you may want to number each heading so your readers can easily locate and identify the different sections of your document. With Word, you can automatically number your headings with a single step.

Before you start this process, take a moment now to scroll through your document and look at its structure.

NUMBER HEADINGS

1. Scroll to the top of the document and place the insertion point in the heading at the top of this page.

   Notice that the Formatting toolbar indicates that this heading uses the style "Heading 1." This indicates that this is the top-level heading in your document.

2. Scroll to the fifth page of your document and place the insertion point in the heading "Log in" at the top of this page.

   Notice that the Formatting toolbar now indicates that the heading uses the style "Heading 2." This indicates that this is the second level heading in your document and is subordinate to the "Heading 1" topic.

3. Scroll back to the top of your document, and then choose the Heading Numbering command from the Format menu.

   The Heading Numbering dialog box displays, as shown in Figure 6-9. Notice that this dialog offers you many different styles to use for numbering the headings in your document.

4. Choose the third available style by clicking on the last sample in the top row, and then choose OK to apply this numbering style to your document.

   Notice that the first heading in your document is now numbered "1."

5. Scroll to the fifth page of your document.

   Notice that the heading at the top of this page is numbered "4.1." This indicates that it is the first subheading under the fourth heading of your document.

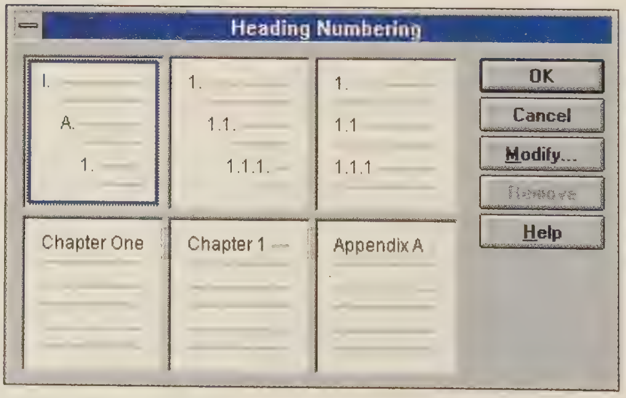
6. Continue scrolling through your document.

   Notice that the sixth level-1 heading of your document has four subheadings, numbered "6.1" through "6.4."

7. Scroll back to the top of your document.

FIGURE 6-9

The Heading Numbering dialog box allows you to number the headings within your document in a single step.



USING OUTLINE VIEW

You have moved text blocks around in smaller documents by copying or pasting, or by using drag-and-drop. While these methods work well for a small document, they are unwieldy when you are trying to reorganize a large document, such as LONGDOC.DOC.

A better method of looking at and rearranging a long document is Word's **Outline view**. This document view allows you to look at the overall structure of your document and change it easily without having to take the time to cut and paste large blocks of text.

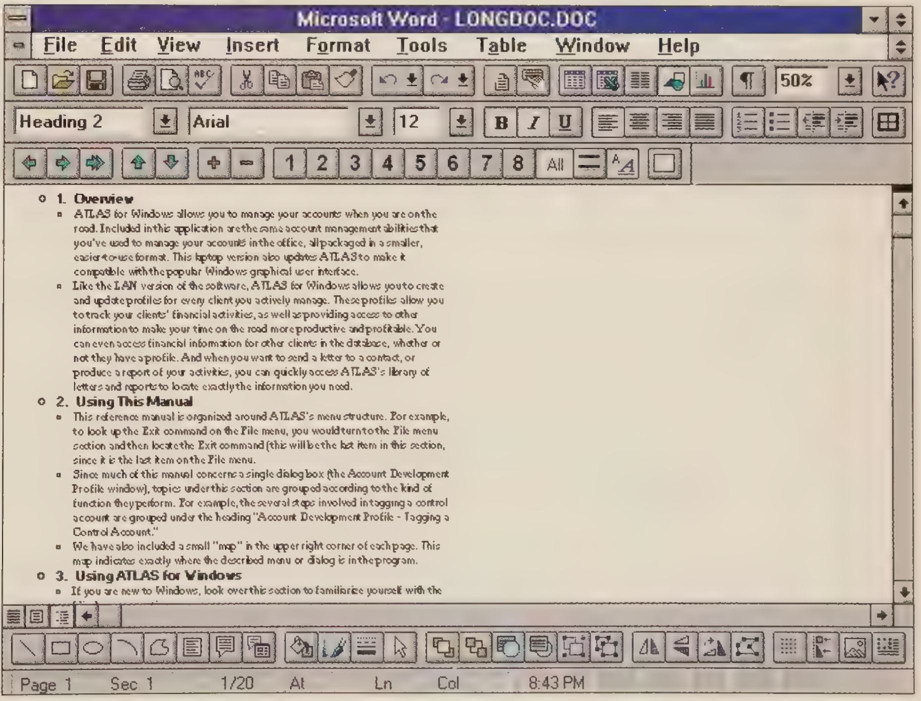
USE OUTLINE VIEW

1. Display the View menu.

   Notice that, in addition to the Normal and Page Layout views that you have used to display your document, the menu includes an Outline view. This is the view you will be using in this exercise.

2. Choose Outline from the View menu.

   Notice how this changes the display of your document and how it adds another toolbar to the Word application window, as shown in Figure 6-10.


Microsoft Word - LONGDOC.DOC
File Edit View Insert Format Tools Table Window Help
50%
Heading 2
Arial
12
1 2 3 4 5 6 7 8 All
Page 1 Sec 1 1/20 At Ln Col 8:43 PM

- 1. **Overview**
  - ATLAS for Windows allows you to manage your accounts when you are on the road. Included in this application are the same account management abilities that you've used to manage your accounts in the office, all packaged in a smaller, easier-to-use format. This laptop version also updates ATLAS to make it compatible with the popular Windows graphical user interface.
  - Like the LAN version of the software, ATLAS for Windows allows you to create and update profiles for every client you actively manage. These profiles allow you to track your clients' financial activities, as well as providing access to other information to make your time on the road more productive and profitable. You can even access financial information for other clients in the database, whether or not they have a profile. And when you want to send a letter to a contact, or produce a report of your activities, you can quickly access ATLAS's library of letters and reports to locate exactly the information you need.
- 2. **Using This Manual**
  - This reference manual is organized around ATLAS's menu structure. For example, to look up the Exit command on the File menu, you would turn to the File menu section and then locate the Exit command (this will be the last item in this section, since it is the last item on the File menu.
  - Since much of this manual concerns a single dialog box (the Account Development Profile window), topics under this section are grouped according to the kind of function they perform. For example, the several steps involved in tagging a control account are grouped under the heading "Account Development Profile - Tagging a Control Account."
  - We have also included a small "map" in the upper right corner of each page. This map indicates exactly where the described menu or dialog is in the program.
- 3. **Using ATLAS for Windows**
  - If you are new to Windows, look over this section to familiarize yourself with the

FIGURE 6-10

The Outline view allows you to view the hierarchy of your document's organization, and to easily rearrange and reorder this organization.

The hierarchy of your document is indicated by the indentation of the various elements. Notice that the top level headings appear flush with the left margin, while the text beneath these headings is slightly indented.

3. Scroll through your document until you see the subordinate heading, titled "Login."

Notice that this subordinate heading is indented, indicating that it is subordinate to the main level headings.

4. Scroll back to the top of your document.

When you are reorganizing a large document, having to look at all of the text within the document can be distracting. What you really want to do is to concentrate on the headings and ignore the text beneath them.

Notice the row of numbers in the Outline toolbar. At the end of this row of numbers, the word *All* is selected. This indicates that Word is showing all of the material in your document. You can restrict your view to headings of a specific level by indicating the number of the heading.

5. Choose the button labeled 1 from the Outline toolbar.

Notice that only the top level headings are shown in your application window, as shown in Figure 6-11.

Expanding our view to include the subordinate headings as well might make more sense.

6. Choose the button labeled 2 from the Outline toolbar.

Word now includes the subordinate headings in the listing, as shown in Figure 6-12.

Now that you have all of your headings displayed, you can easily change your manual's organization.

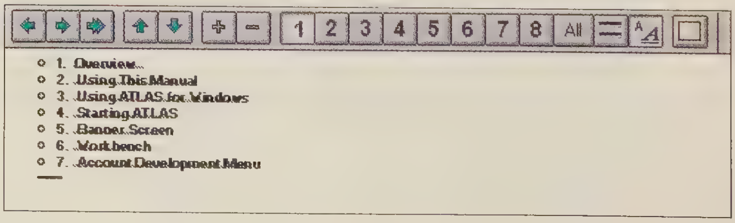
7. Move the pointer over the dot preceding the heading titled "Workbench."

Correctly positioning the pointer changes its shape to one with arrows pointing in four directions.

8. Click to select this heading and all of the headings subordinate to it.

Notice that all of these section heads are highlighted.

9. Choose the Move Up button in the Outline toolbar.



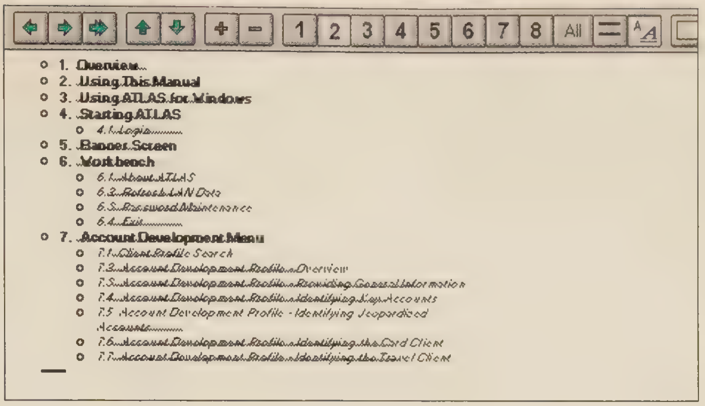
○ 1. Overview
○ 2. Using This Manual
○ 3. Using ATLAS for Windows
○ 4. Starting ATLAS
○ 5. Banner Screen
○ 6. Workbench
○ 7. Account Development Menu

FIGURE 6-11

You can concentrate on the organization of the top level headings in your document by choosing the number 1 from the Outline toolbar.

FIGURE 6-12

If you want to include the subordinate headings as well as the top level headings, choose the number 2 from the Outline toolbar.



- 1. Overview
- 2. Using This Manual
- 3. Using ATLAS for Windows
- 4. Starting ATLAS
  - 4.1. Login
- 5. Banner Screen
- 6. Workbench
  - 6.1. About ATLAS
  - 6.2. Refresh LAN Data
  - 6.3. Password Maintenance
  - 6.4. Exit
- 7. Account Development Menu
  - 7.1. Client Profile Search
  - 7.2. Account Development Profile - Overview
  - 7.3. Account Development Profile - Providing General Information
  - 7.4. Account Development Profile - Identifying Key Accounts
  - 7.5 Account Development Profile - Identifying Jeopardized Accounts
  - 7.6. Account Development Profile - Identifying the Card Client
  - 7.7. Account Development Profile - Identifying the Travel Client

The "Workbench" heading and all of its subordinate headings move above the "Banner Screen" heading. You may also notice that Word has renumbered your headings so they are still sequential.

You can also easily change a subordinate heading to a top-level heading, or vice versa.

10. Click on the dot preceding the subordinate heading "Login."

You have selected this heading.

11. Click on the Promote button in the Outline toolbar.

The heading is moved up with the top level headings, and is numbered sequentially. When you have finished reorganizing your document, it should look like that shown in Figure 6-13.

Now return to your Normal view and look at how these changes have affected your document.

12. Choose Normal from the View menu.

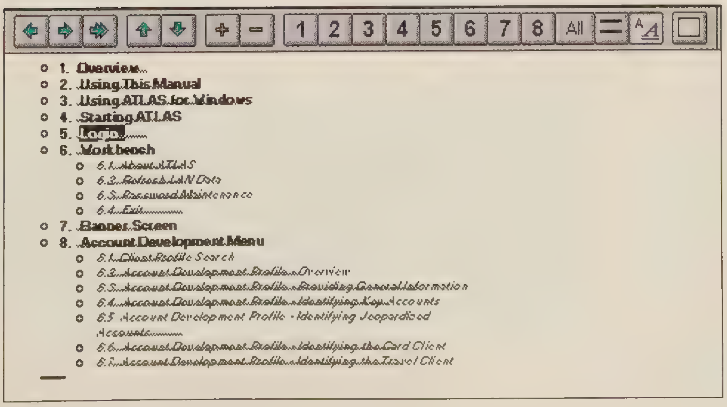
Your document is again displayed in Normal view.

13. Scroll downwards through your document and look at how it has changed.

Notice that the headings you rearranged have been moved to their indicated position.

FIGURE 6-13

When you are finished rearranging your document, it should look like the example shown here.



- 1. Overview
- 2. Using This Manual
- 3. Using ATLAS for Windows
- 4. Starting ATLAS
- 5. Login
- 6. Workbench
  - 6.1. About ATLAS
  - 6.2. Refresh LAN Data
  - 6.3. Password Maintenance
  - 6.4. Exit
- 7. Banner Screen
- 8. Account Development Menu
  - 8.1. Client Profile Search
  - 8.2. Account Development Profile - Overview
  - 8.3. Account Development Profile - Providing General Information
  - 8.4. Account Development Profile - Identifying Key Accounts
  - 8.5 Account Development Profile - Identifying Jeopardized Accounts
  - 8.6. Account Development Profile - Identifying the Card Client
  - 8.7. Account Development Profile - Identifying the Travel Client

ADDING PAGE HEADERS AND FOOTERS

When you are working in a long document, adding a page number to the bottom of each page is often helpful. You may also want to add a **running head**, usually the name of the current chapter or section title, at the top of each page. Each of these can be accomplished by adding headers and footers to your document.

Headers and **footers** are document elements that appear within the page margin at the top or bottom of each page. When you specify that you want a certain piece of information included in the page header or footer, Word repeats the information within each header (or footer) at the top (or bottom) of each succeeding page of your document. Note that although headers and footers may not display on screen in certain page views, such as Normal, they will always print out.

ADD PAGE HEADERS AND FOOTERS

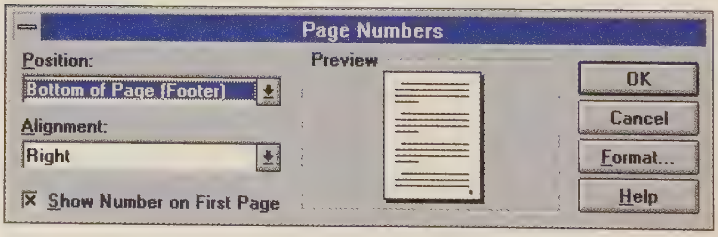
1. Scroll to the top of your document and place the insertion point before the first line of text.
2. Since you will be making changes that affect the page layout, you should change to the Page Layout view. Choose Page Layout from the View menu.
3. Display the Insert menu and choose Page Numbers from it.

   The Page Numbers dialog box displays, as shown in Figure 6-14.

This allows you to specify where on each page you want to display the page numbers. Since we want to include the **page numbers** at the bottom of the page, we can leave the Position option at its default setting: "Bottom of Page (Footer)".

4. Instead of printing the page numbers at the right margin, they might look better if they were centered on the page. Display the Alignment drop-down list, and select the Center setting.
5. Choose OK to add page numbers to each page of your document.

   Scroll to the bottom of the first page and notice that the number 1 now appears here.


Page Numbers

Position: Bottom of Page (Footer)

Alignment: Right

☒ Show Number on First Page

FIGURE 6-14
You can easily add page numbers to your document by using the Page Numbers dialog box.

Adding other elements to your document is almost as easy. You are going to create a page header that lists the name of the document and the current date.

6. To create a page header, choose Header and Footer from the View menu.

Word places you in a special view that allows you to see the header and footer area on each page, as shown in Figure 6-15. It also displays the Header and Footer dialog box which has special elements you might want to include in your page header or footer.

7. Scroll to the bottom of the first page.

Notice that the page number you inserted in the footer is displayed within the Footer view on the page.

8. Since you are going to be working on the page header, scroll back to the top of the first page.

The first element you are going to add is the name of the document, "ATLAS Reference Manual."

9. Position the insertion point within the header and type **ATLAS Reference Manual**

The other element you want to include in all of the page headers is the current date.

10. Since you want the date to appear on the other side of the header, press Tab twice to move the insertion point to the right side of the header.

11. To insert the current date, click on the Date icon in the Header and Footer toolbar.

This inserts the current date into your page header. When you are finished working on your header, it should look like the example in Figure 6-16.

12. You are ready to exit from this view. Choose Header and Footer again from the View menu to return to your regular view.

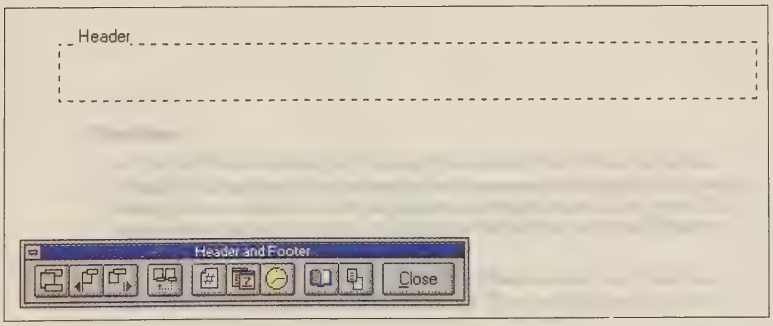
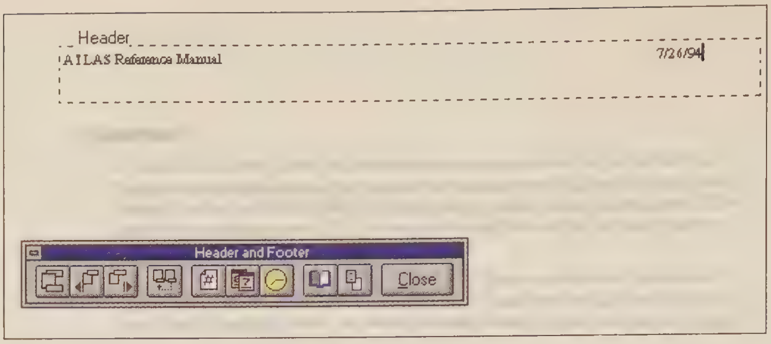


FIGURE 6-15

The Header and Footer view allows you to edit the information printed at the top and bottom of every page of your document. The Header and Footer dialog box contains special symbols, such as the page number, or the current time and date, which can be added to your header or footer.

FIGURE 6-16
When you have finished creating your header, it should look like the example shown here.



AILAS Reference Manual 7/26/94

ADDING FOOTNOTES

When you are working in a long document, such as a technical report or a college term paper, you may need to add footnotes to your document. **Footnotes** are generally used to provide supporting or additional information about a statement. They are also used when citing the source of a piece of information.

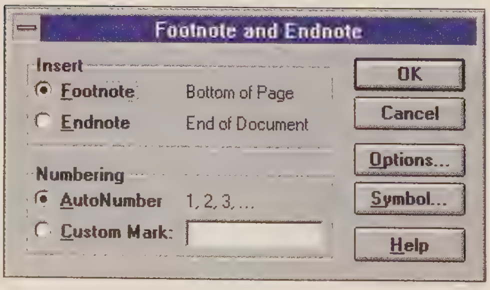
Using Word's Footnote command, you can easily add any style of footnote to your document. Word will automatically renumber the footnotes if you move a piece of text around or add or delete a footnote.

ADD A FOOTNOTE

1. Be sure LONGDOC.DOC is still open.
2. Place the insertion point at the end of the last paragraph on page 1 of this document, after the words "locate exactly the information you need." Be sure to place the insertion point before the period in this sentence.
3. Choose Footnote from the Insert menu.

   The Footnote and Endnote dialog box displays, as shown in Figure 6-17. Notice that the default settings in this dialog box insert a footnote at the bottom of the page, and numbers it numerically. Although we can change this option, for now let's use these settings.

FIGURE 6-17
The Footnote and Endnote dialog box allows you to insert footnotes into the text of your document.



Insert
● Footnote Bottom of Page
○ Endnote End of Document

Numbering
● AutoNumber 1, 2, 3, ...
○ Custom Mark:

4. Choose OK to insert a footnote into your document.

   Word places the number 1 at the current insertion point, as shown in Figure 6-18, and then creates space for the footnote text at the bottom of the page. Notice that it also places a footnote separator (a horizontal line) above the footnote text.

5. Type the following as your footnote text. (Note that you should select the name of the manual and italicize it in order to match the sample shown here.)

   For more information on the available letters, see the manual *Using Letters to Convey Financial Information.*

   Your footnote text should look like that shown in Figure 6-19.

6. You are going to include a second footnote on the next page of your document. Scroll to the second page of your document and place your insertion point at the end of the last paragraph on this page, the sentence that reads "This map indicates exactly where the described menu or dialog is in the program."

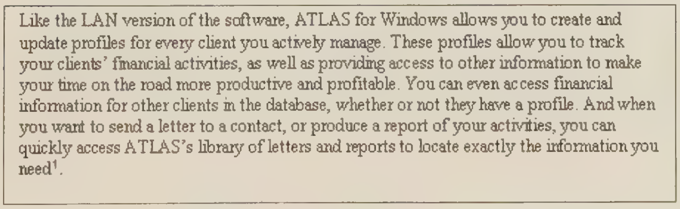
7. Choose Footnote from the Insert menu, and choose OK to insert a footnote using the default settings.

   Notice that the footnote number at the current insertion point is the number 2. Word also creates a space for the footnote text at the bottom of the page, and places the number 2 before this text area.

8. In the footnote text area, type the following:

   For more information on maps, see the chart included with your laptop.

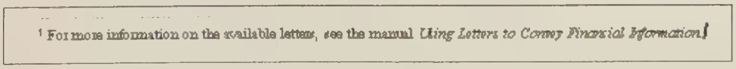
You can see that having Word create and format your footnotes for you is going to save you a lot of work. However, what happens if you decide you want to group your footnotes at the end of your document? Fortunately, changing the footnotes in your document to **endnotes** is a simple process. Just follow the steps below.



Like the LAN version of the software, ATLAS for Windows allows you to create and update profiles for every client you actively manage. These profiles allow you to track your clients' financial activities, as well as providing access to other information to make your time on the road more productive and profitable. You can even access financial information for other clients in the database, whether or not they have a profile. And when you want to send a letter to a contact, or produce a report of your activities, you can quickly access ATLAS's library of letters and reports to locate exactly the information you need[1].

FIGURE 6-18

When you insert a footnote into a document, Word numbers the footnote at the current insertion point, and then creates a space for the footnote text at the bottom of the page.



[1] For more information on the available letters, see the manual *Using Letters to Convey Financial Information.*

FIGURE 6-19

Your footnote text should look like the example shown here.

9. Choose Footnote from the Insert menu.

   The Footnote dialog box displays.

This allows you to specify how an individual footnote or endnote is formatted, but it does not allow you to change the formatting for every footnote or endnote in your document. To do this, you must select the Options button.

10. Select the Options button.

    The Note Options dialog box displays, as shown in Figure 6-20.

This allows you to change the appearance of every footnote in your document. You will use this now to change the numbering scheme used by the notes in your document before converting them to endnotes.

11. Display the Number Format drop-down list in this dialog, and select the numbering scheme that uses lowercase roman numerals (i, ii, iii).

12. Before changing the number format, let's convert our footnotes to endnotes. Choose the Convert button.

    The Convert Notes dialog box displays, as shown in Figure 6-21. Notice that the only available option is to convert the footnotes in your document into endnotes.

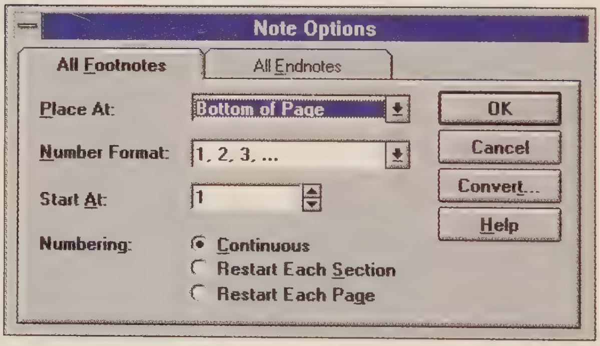
13. Choose OK to convert your footnote into endnotes.

    The Convert Notes dialog box disappears, and you are returned to the Note Options dialog box.

14. Choose OK to change the appearance of the notes in your document.

FIGURE 6-20

The Note Options dialog box allows you to change the format used by every footnote or endnote in your document.



Place At: Bottom of Page

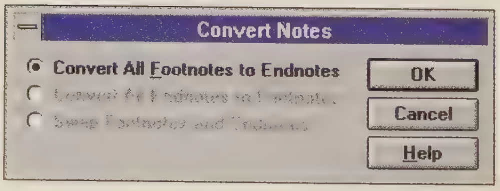
Number Format: 1, 2, 3, ...

Start At: 1

Numbering:
● Continuous
○ Restart Each Section
○ Restart Each Page

FIGURE 6-21

The Convert Notes dialog box allows you to convert all of the footnotes in your document into endnotes.



● Convert All Footnotes to Endnotes

The Note Options dialog box disappears, and you are returned to the Footnote and Endnote dialog box.

15. Choose the Close button to dismiss this dialog without inserting a note.
16. Now, scroll through the first and second pages in your document.

    Notice that although the notes are still numbered in the body of the text, the note text no longer appears at the bottom of these pages. Also notice that the notes are numbered using lowercase roman numbers, as you requested.

17. Scroll to the last page of your document.

    Your notes now appear at the end of your document, as shown in Figure 6-22.

CREATING A TABLE OF CONTENTS

One last item you might want to add to a long document such as this, is a complete **table of contents**. This will allow your reader to easily locate any section that he or she might want to find.

Word allows you to create such a table of contents very easily by locating all of the headings in your document and pairing them with the page number on which they appear. Let's go through the steps now.

CREATE A TABLE OF CONTENTS

1. Position the insertion point before the first line of text in your document.

   This tells Word that this is where you want to insert a table of contents.

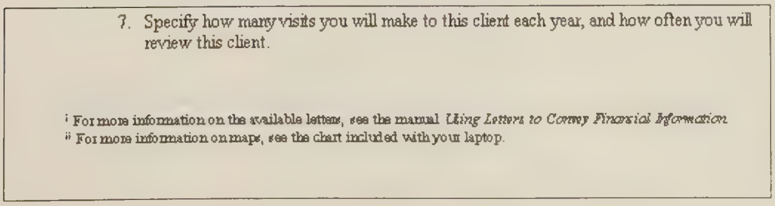
2. Choose Index and Tables from the Insert menu.

   The Index and Tables dialog box displays, as shown in Figure 6-23.

3. Choose the Table of Contents tab from the top of this dialog box to display the options available for creating a table of contents.

   The settings available for creating a table of contents display within this dialog, as shown in Figure 6-24.

4. Notice that you have several formats available for producing your table of contents. Choose Fancy from the list of available formats.

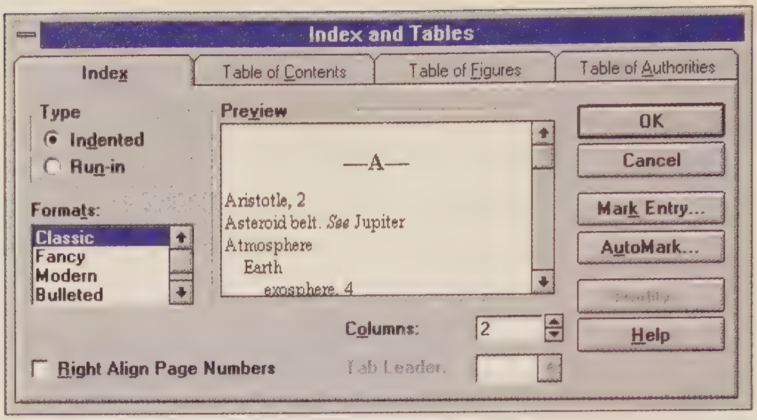


7. Specify how many visits you will make to this client each year, and how often you will review this client.

[i] For more information on the available letters, see the manual *Using Letters to Convey Financial Information*

[ii] For more information on maps, see the chart included with your laptop.

FIGURE 6-22
After converting your footnotes to endnotes, both notes appear at the end of your document.



Type: ● Indented ○ Run-in

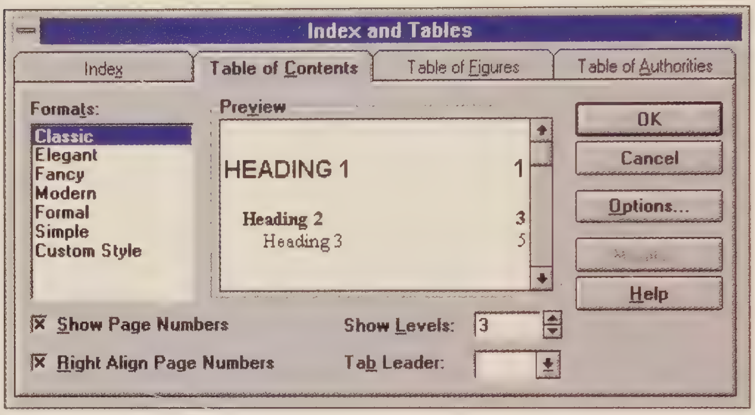
Formats: Classic (Classic, Fancy, Modern, Bulleted)

Columns: 2

☐ Right Align Page Numbers

FIGURE 6-23

The Index and Tables dialog box allows you to create indexes and tables of contents, as well as tables of figures and tables of authorities.



Formats: Classic (Classic, Elegant, Fancy, Modern, Formal, Simple, Custom Style)

☒ Show Page Numbers

☒ Right Align Page Numbers

Show Levels: 3

Tab Leader:

FIGURE 6-24

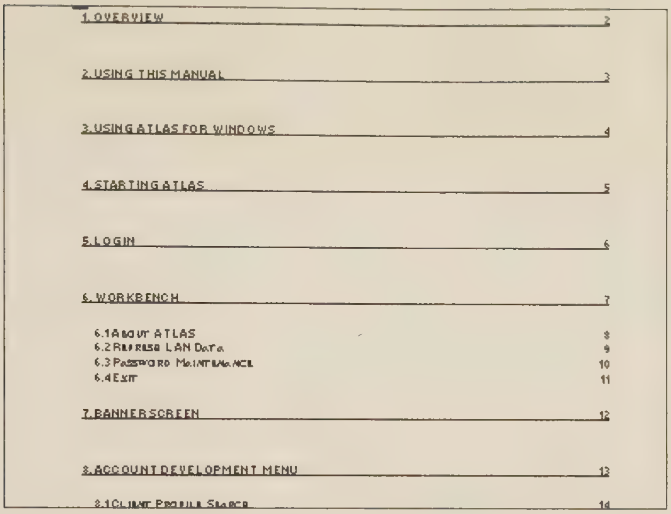
The settings available for creating a table of contents allow you to determine the style you want it to have, as well as the appearance of the page numbers and the level of headings included.

Notice that this changes the sample table of contents shown in the Preview box.

5. Since you only have two levels of headings in your document ("Heading 1" and "Heading 2"), you can limit your table of contents to just these two levels. Change the Show Levels setting to 2.
6. The rest of the settings are fine, and will produce a table of contents with page numbers aligned at the right margin. Choose OK to create your table of contents.

   After a few moments, Word inserts your completed table of contents at the start of your document, part of which is shown in Figure 6-25.
7. Choose the Save icon to save your changes to your Student Data Disk.

You have completed your work on this document. And you have learned the basic functions of Word during these lessons. Now you should be able to go out and create your own documents.



1. OVERVIEW 2
2. USING THIS MANUAL 3
3. USING ATLAS FOR WINDOWS 4
4. STARTING ATLAS 5
5. LOGIN 6
6. WORKBENCH 7
6.1 About ATLAS 8
6.2 Refresh LAN Data 9
6.3 Password Maintenance 10
6.4 Exit 11
7. BANNER SCREEN 12
8. ACCOUNT DEVELOPMENT MENU 13
8.1 Client Profile Search 14

FIGURE 6-25
Word inserts the table of contents into your document at the specified location.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Move to certain page	Choose Edit, Go To	Alt+e,g *or* Ctrl+g	
Locate text block	Choose Edit, Find	Alt+e,f *or* Ctrl+f	
Place bookmark	Choose Edit, Bookmark	Alt+e,b	
Correct repeated mistakes	Choose Edit, Replace	Alt+e,e *or* Ctrl+h	
Correct mistakes as you type	Choose Tools, AutoCorrect	Alt+t,a	
Number headings	Choose Format, Heading Numbering	Alt+o,h	
Use Outline view	Choose View, Outline	Alt+v,o	☰
Add page numbers	Choose Insert, Page Numbers	Alt+i,u	
Add page headers and footers	Choose View, Header and Footer	Alt+v,h	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Add footnote	Choose Insert, Footnote	Alt+i,n	
Create table of contents	Choose Insert, Index and Tables	Alt+i,x	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. AutoCorrect	a. Allows you to quickly move to specified element, such as page or line, in document
2. Bookmark	b. Allows you to locate specified word, phrase, or style anywhere in document
3. Find	c. Allows you to place marker anywhere in document
4. Footnote	d. Locates and replaces specified word, phrase, or style anywhere in document
5. Go To	e. Automatically corrects mistakes as you make them
6. Headers and Footers	f. Automatically numbers headings in document
7. Heading Numbering	g. Way of displaying document that focuses on organization of document
8. Index and Tables	h. Allows you to repeat information at top or bottom of each page
9. Outline view	i. Allows you to add supplementary information at bottom of page
10. Replace	j. Allows you to list names of headings in document and page on which they appear

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. The quickest way to place the page number at the bottom of each page is by using which dialog box?

a. Page Numbers

b. Headers and Footers

   c. Footnotes
   d. Numbering

2. Which view would you use to easily reorganize your document?
   a. Normal
   b. Page Layout
   c. Outline
   d. Master Document

3. Which dialog box allows you to quickly number the headings in your document?
   a. Page Numbering
   b. Heading Numbering
   c. Word Count
   d. Sort Text

4. Which of the following does not allow you to place repeating information on each page of your document?
   a. Page Numbers
   b. Header and Footer
   c. Heading Numbering
   d. Element Numbering

5. Which of the following would not help you correct repeated mistakes?
   a. Replace
   b. Spelling
   c. Annotation
   d. AutoCorrect

6. Which of the following does not allow you to quickly locate information in your document?
   a. Find
   b. Paste
   c. Bookmark
   d. Go To

7. Which of the following is not available from the Index and Tables dialog?
   - **a.** Index
   - **b.** Table of Contents
   - **c.** Convert Text to Table
   - **d.** Table of Figures

8. How many mouse clicks does it require to produce the default table of contents?
   - **a.** 1
   - **b.** 0
   - **c.** 3
   - **d.** 7

9. What kind of notes can you add to your document?
   - **a.** Footnotes only
   - **b.** Endnotes only
   - **c.** Both Footnotes and Endnotes
   - **d.** None of the above

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. What menu would you be working with if you were formatting an existing document by adding page numbers and a table of contents to it?
2. What menu would you be working with if you were locating a piece of text in your document and placing a bookmark at this location?
3. Where do endnotes appear in a document?
4. Where do footnotes appear in a document?
5. From the Outline view, is it possible to temporarily "hide" some of the text in your document?
6. When you number headings, do you need to tell Word which text style you are using for the headings?

APPLICATION PROJECTS

1. Try to rearrange LONGDOC.DOC the same as you did in this lesson using the Cut and Paste commands. How many more steps are involved?
2. Open the LONGDOC.DOC document and try using the Grammar command (on the Tools menu). This is a useful command for cleaning up a long document.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
FILE COMMANDS			
Start Word	Double-click Word application icon		Microsoft Word
Get on-line help	Choose any of the Help selections	Choose any of the Help selections	?
Open document	Choose File, Open	Alt+f,o *or* Ctrl+o	📂
Close document	Choose File, Close	Alt+f,c	
Save document	Choose File, Save	Alt+f,s *or* Ctrl+s	💾
Print document	Choose File, Print	Alt+f,p *or* Ctrl+p	🖨
Exit Word	Choose File, Exit	Alt+f,x *or* Ctrl+x	
Select template	Choose File, New	Alt+f,n *or* Ctrl+n	🗋
Preview printed document	Choose File, Print Preview	Alt+f,v	🔍
Use wizard to create document	Choose File, New and select a wizard	Alt+f,n	
Add text file	Choose Insert, File	Alt+i,l	
Add part of text file	Copy text from another document and paste it into your document	Copy the text from another document and paste it into your document	
Add clip art image	Choose Insert, Picture	Alt+i,p	
Create template	Choose File, Save As, and save file as document template	Alt+f,s *or* Ctrl+s	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
EDITING			
Repeat action	Choose Edit, Repeat Action	Alt+e,r	
Insert current date	Choose Insert, Date and Time	Alt+i,t	
Insert column break	Choose Insert, Break	Alt+i,b	
Delete page break		Select page break and Del	
INSERTION POINT MOVEMENT			
Move insertion point anywhere in text	Click to place insertion point		
Move insertion point one character to left		←	
Move insertion point one character to right		→	
Move insertion point one line up		↑	
Move insertion point one line down		↓	
Move insertion point one word to left		Ctrl+←	
Move insertion point one word to right		Ctrl+→	
Move insertion point to end of line		End	
Move insertion point to beginning of line		Home	
Move insertion point one paragraph up		Ctrl+↑	
Move insertion point one paragraph down		Ctrl+↓	
Move insertion point down one window		Page Down	
Move insertion point up one window		Page Up	
Move insertion point to bottom of window		Ctrl+Page Down	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Move insertion point to top of window		Ctrl+Page Up	
Move insertion point to end of document		Ctrl+End	
Move insertion point to start of document		Ctrl+Home	
Start paragraph		Enter	
SELECTING			
Select text	Drag across text *or* press Shift to select text from current insertion point to new location		
Deselect text	Click anywhere in document		
Select word	Double-click on word		
Select line	Click in selection bar to left of line		
Select multiple lines	Drag in selection bar to left of lines		
Select sentence	Hold down Ctrl and click anywhere in sentence		
Select paragraph	Double-click in selection bar next to paragraph		
Select multiple paragraphs	Double-click and drag in selection bar		
Select document	Hold down Ctrl and click selection bar		
Select one character to left		Shift+←	
Select one character to right		Shift+→	
Select one line up		Shift+↑	
Select one line down		Shift+↓	
Select one word to left		Shift+Ctrl+←	
Select one word to right		Shift+Ctrl+→	
Select to end of line		Shift+End	
Select to start of line		Shift+Home	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select one paragraph up		Shift+Ctrl+↑	
Select one paragraph down		Shift+Ctrl+↓	
Select down one window		Shift+Page Down	
Select up one window		Shift+Page Up	
Select to bottom of window		Shift+Ctrl+Page Down	
Select to top of window		Shift+Ctrl+Page Up	
Select to end of document		Shift+Ctrl+End	
Select start of document		Shift+Ctrl+Home	
DELETING			
Delete character to right		Del	
Delete character to left		Bksp	
Delete selection		Del	
Clear selection	Choose Edit, Clear	Alt+e,a	
Undo change	Choose Edit, Undo	Alt+e,u *or* Ctrl+z	↶
Enter overtype mode	Double-click OVR in Status bar	Insert	
MOVING AND COPYING			
Cut text to Clipboard	Choose Edit, Cut	Alt+e,t *or* Ctrl+x	✂
Copy text to Clipboard	Choose Edit, Copy	Alt+e,c *or* Ctrl+c	⎘
Paste text from Clipboard	Choose Edit, Paste	Alt+e,p *or* Ctrl+v	📋
Drag-and-drop text	Drag selected text block to new location		
Drag-and-drop text: copy	Hold down Ctrl and drag selected text block to new location		

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
SCREEN DISPLAY			
Specify which toolbars to display	Choose View, Toolbar	Alt+v,t	
Display or hide page ruler	Choose View, Ruler	Alt+v,r	
Scroll slowly in any direction	Click scroll arrows on vertical or horizontal scroll bars		
Scroll screenful in any direction	Click vertical or horizontal scroll bars		
Scroll large distance in any direction	Drag scroll box on vertical or horizontal scroll bar		
Change to Normal view	Choose View, Normal	Alt+v,n	≣
Change to Page Layout view	Choose View, Page Layout	Alt+v,p	▤
Change magnification of document display			95%
Use Outline view	Choose View, Outline	Alt+v,o	☰
FORMATTING			
Have Word format document automatically	Choose Format, AutoFormat	Alt+o,a	🗎
CHARACTER			
Change font of selected text	Choose Format, Font	Alt+o,f *or* Ctrl+Shift+f	Times New Roman
Change type size of selected text	Choose Format, Font	Alt+o,f *or* Ctrl+Shift+p	10
Bold	Choose Format, Font	Alt+o,f *or* Ctrl+b	**B**
Italic	Choose Format, Font	Alt+o,f *or* Ctrl+i	*I*
Underline	Choose Format, Font	Alt+o,f *or* Ctrl+u	U

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
STYLE			
Apply a predefined style to selected text	Choose Format, Style	Alt+o,s *or* Ctrl+Shift+s	Normal
Copy text appearance from one text block to another			🖌
Create style	Choose Format, Style	Alt+o,s	
Modify style	Choose Format, Style	Alt+o,s	Normal
PARAGRAPH			
Change paragraph indents	Choose Format, Paragraph *or* drag indent markers on page ruler	Alt+o,p	⇤ *or* ⇥
Change spacing between paragraphs	Choose Format, Paragraph	Alt+o,p	
Align text	Choose Format, Paragraph	Alt+o,p	≡ left ≡ center ≡ right ≡ justified
Number headings	Choose Format, Heading Numbering	Alt+o,h	
PAGE			
Change page setup	Choose File, Page Setup	Alt+f,u	
Change number of columns	Choose Format, Columns	Alt+o,c	▥
Add page numbers	Choose Insert, Page Numbers	Alt+i,u	
Add page headers and footers	Choose View, Header and Footer	Alt+v,h	
Add footnote	Choose Insert, Footnote	Alt+i,n	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
GRAPHICS			
Reposition graphic	Drag it to a new location *or* choose Frame from the Format menu	Press Alt+o,m	
Show or hide Drawing toolbar	Drawing button		
Create line	Drag Line tool across page		╲
Create rectangle	Drag Rectangle tool across page		▭
Create ellipse	Drag Ellipse tool across page		⬭
Create freeform shape	Drag Freeform tool across page		
Select object	Click on object		
Select additional object	Click on additional object and Shift		
Move object	Drag it on page		
Fill object			
Change line color			
Bring object to front			
Attach text box			
Create frame			
Create border	Choose Format, Borders and Shading	Alt+o,b	
TABLES			
Create table			
Move insertion point within table	Click in cell you want to move to	Tab *or* arrow keys	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Insert row	Choose Table, Insert Row	Alt+a,i	
Format table	Choose Table, Table AutoFormat	Alt+a,f	
WRITING TOOLS			
Check spelling	Choose Tools, Spelling	Alt+t,s *or* F7	ABC✓
Move to certain page	Choose Edit, Go To	Alt+e,g *or* Ctrl+g	
Locate text block	Choose Edit, Find	Alt+e,f *or* Ctrl+f	
Place bookmark	Choose Edit, Bookmark	Alt+e,b	
Correct repeated mistakes	Choose Edit, Replace	Alt+e,e *or* Ctrl+h	
Correct mistakes as you type	Choose Tools, AutoCorrect	Alt+t,a	
Create table of contents	Choose Insert, Index and Tables	Alt+i,x	

GLOSSARY

alignment Type of paragraph formatting that determines how the lines within the paragraph line up

Alignment button Group of buttons on the Formatting toolbar that indicate the current alignment (or how the lines within the paragraph line up). Choices are Align Left, Center, Align Right, and Justify

application window Main Word for Windows screen

AutoFormat button Button on the Standard toolbar that allows you to have Word automatically format, or change the appearance of, the text to give it a smoother, more professional appearance

AutoCorrect Word feature that can automatically catch and correct mistakes as they are made

AutoFormats Set of predefined document formats that allow the user to instantly change the appearance of an entire document

backspace key Key that deletes the current selection, or, if there is no current selection, deletes characters to the left of the insertion point

banner Large title at the top of a newsletter

body Main part of a document

bold Character format that emphasizes a character by increasing its thickness

Bold button Button on the Formatting toolbar that indicates whether the text is bold

bookmark Mark the user can place within a document and have Word automatically return there

border Solid edge that can be used to define the style of a line or frame

Bring to Front button Button on the Drawing toolbar that allows the user to move an object to the front of the drawing space

Bullets button Button on the Formatting toolbar that indicates whether the lines are bulleted

callout Text attached to a graphic

caption Text appearing with a graphic that describes the graphic

cell Single element within a table

center align To center each line within a paragraph on the page

character formatting Changing the appearance of a character or group of characters, such as changing the font, size, or style of a character

clip art Set of graphics that the user can incorporate into documents

Clipboard Special place in memory where Word temporarily stores information

Close button Button in the Print Preview window that allows the user to close the Preview window

column Block of text arranged vertically on a page

column Group of cells arranged vertically within a table

column break Special character that tells Word to place any text that follows at the top of the next text column

Columns button Button on the Standard toolbar that allows the user to break the text on the current page into several columns

copy To place a copy of the current selection on the Clipboard

Copy button Button on the Standard toolbar that allows the user to copy a piece of text or other element and place this copy on the Clipboard

cut To remove the current selection and place it on the Clipboard

Cut button Button on the Standard toolbar that allows the user to remove a piece of text or other element and place it on the Clipboard—a temporary storage place for information used by all Windows applications

date symbol Symbol that the user can insert into a document which Word will replace with the current date and time

Decrease Indent button Button on the Formatting toolbar that moves the entire paragraph to the left

delete To remove elements from a document

delete key Key that deletes the current selection, or, if there is no current selection, deletes characters to the right of the insertion point

deselecting To remove the highlighting from a selected element within a document by clicking anywhere on the screen outside the selection

double underline Character format that emphasizes a character by placing a double line under it

drag-and-drop Method that allows the user to move or copy elements within a document by dragging them from one location to another

dragging Holding down the mouse button while moving mouse pointer, then releasing mouse button

Drawing button Button on the Standard toolbar that allows the user to create a drawing within a document by using the drawing tools

Drawing toolbar Word toolbar that allows the user to create a drawing within a document

Edit menu Menu that allows the user to rearrange the elements within a document by copying, moving, and deleting them

Ellipse button Button on the Drawing toolbar that allows the user to create ellipses

endnote Supporting or additional information about a statement that appears at the end of a document

File menu Menu that allows the user to control files by opening, saving, and printing them

fill The interior of an object

Fill Color button Button on the Drawing toolbar that allows the user to determine what color to fill an object with

font Appearance, or typeface, of a set of characters

Font button Button on the Formatting toolbar that indicates the current text font (or typeface) and allows the user to select another font

font size Size of a character

Font Size button Button on the Formatting toolbar that indicates the current text size and allows the user to select another size

footer Page element that appears within the page margins at the bottom of each page

footnote Supporting or additonal information about a statement that appears at the bottom of the page

Format menu Menu that allows the user to change the appearance of the elements within a document, such as character size or paragraph alignment

Format Painter button Button on the Standard toolbar that allows the user to copy the formatting, or text appearance, from one block of text to another

formatting Changing the appearance of elements, such as text or graphics, within a document

frame Borders around a graphic

Freeform button Button on the Drawing toolbar that allows the user to create freeform shapes

Full Screen button Button in the Print Preview window that allows the user to expand the Preview window so it fills the entire screen

group Collection of Windows applications grouped together within one group window

Group button Button on the Drawing toolbar that allows the user to group objects together

handles Small squares at the corners and sides of a graphic that allow the user to change its size

header Page element that appears within the page margins at the top of each page

Help button Button on the Standard toolbar that allows the user to ask for help on any topic

Help menu Menu that allows the user to access Word's on-line help system

Helvetica Common font

highlighting Black bar that displays around selected elements within a document

horizontal scroll bar Scroll bar at the bottom of the application window that allows the user to scroll the document horizontally

I-beam pointer Mouse pointer—takes the shape of the capital letter I when it's moved over the text

Increase Indent button Button on the Formatting toolbar that moves the entire paragraph to the right

indentation Paragraph format that specifies how far the right and left edges of the paragraph are from the page margins.

Insert Auto Text button Button on the Standard toolbar that allows the user to create or insert Auto Text—allowing the user to quickly insert frequently repeated items into a document by storing them and then inserting them whenever needed

Insert Chart button Button on the Standard toolbar that allows the user to insert a chart into a document

Insert Frame button Button on the Drawing toolbar that allows the user to insert a frame around a drawing

Insert key Key that allows the user to switch between insert and overtype mode for entering text

Insert menu Menu that allows the user to insert various elements into a document, such as special characters or pictures

Insert Microsoft Excel Worksheet button Button on the Standard toolbar that allows the user to insert a Microsoft Excel worksheet into a document

Insert Table button Button on the Standard toolbar that allows the user to insert a table into a document

insertion point Blinking vertical bar within a document that indicates where the text will appear

italic Character format that emphasizes a character by slanting it

Italic button Button on the Formatting toolbar that indicates whether the text is italic

justify To start each line within a paragraph at the left indent, and end each line within a paragraph at the right indent

Landscape orientation Page orientation that prints a document on a page that is wider than it is long (for example, paper that is 8.5 inches long and 11 inches wide)

left align To start each line within a paragraph at the left indent

line Border of an object

Line button Button on the Drawing toolbar that allows the user to create lines

Line Color button Button on the Drawing toolbar that allows the user to determine the color of an object's border

lock To keep a drawing tool current by double-clicking on the tool to select and lock it

Magnification Increases or decreases the size of the document screen display

Magnifier button Button in the Print Preview window that allows the user to magnify the display of any part of a document by clicking on it

margins Determine the amount of white space between the edge of the page and the start of text on the page

Menu bar Bar below the menu bar in the application window that lists available menu names

Multiple Pages button Button in the Print Preview window that allows the user to display several pages of the document at once

New button Button on the Standard toolbar that allows the user to create a new document

Normal view Page view that allows the user to focus on the text in a document by hiding some of its layout

Numbering button Button on the Formatting toolbar that indicates whether lines are numbered.

One Page button Button in the Print Preview window that allows a user to display only one page of the document at once

Open button Button on the Standard toolbar that allows the user to open a document that has already been created and saved

Outline view Page view that allows the user to look at the overall structure of a document and change it easily

overtype mode Mode that allows the user to replace existing (but unselected) text simply by typing over it

page break Special character that tells Word to place any text that follows on the next page

Page Layout view Page view that displays a document on the screen as it will print on the printer

page number Number for the current page, often printed at the bottom of a page

page orientation Page format feature that determines whether Word prints on an upright page, or whether it prints sideways on the page

page setup Format of the page used in a document, such as page size, page margins, and page layout

page view How a document displays on screen

paragraph formatting Changing the appearance of an entire paragraph, such as paragraph indentation or alignment

paragraph spacing Paragraph formats that determine how much space is between lines of text within a paragraph, and how much space is between paragraphs

paste To place the contents of the Clipboard at the current insertion point

Paste button Button on the Standard toolbar that allows the user to paste an element from the Clipboard into the current location in a document

point size Size of a character

Portrait orientation Page orientation that prints a document on a page that is longer than it is wide (for example, paper that is 8.5 inches wide and 11 inches long)

Print button Button in the Print Preview window that allows the user to print the document on the printer

Print button Button on the Standard toolbar that allows the user to print a document on the printer

Print Preview Word command that allows the user to preview how a document will look on the printed page before it's printed

Print Preview button Button on the Standard toolbar that allows the user to preview how a document will look on the printed page

Rectangle button Button on the Drawing toolbar that allows the user to create rectangles

Redo button Button on the Standard toolbar that allows the user to redo the last undo

right align To end each line within a paragraph at the right indent

row Group of cells arranged horizontally within a table

ruler On-screen ruler that allows the user to easily judge measurements on a page

running head Repeated text that often appears at the top of a page and that usually includes the name of the current chapter or section title

Save button Button on the Standard toolbar that allows the user to save a document to a file on disk

scroll Bringing hidden portions of a document into view

scroll arrows Controls on either side of the scroll bar that allow the user to scroll the image slowly in the indicated direction

scroll bars Controls on the right and bottom of the application window that allow the user to move through a document

scroll box Control within the scroll bars that allows the user to move quickly to any location within the display area by dragging the scroll box

section One part of a multipart document

selecting Highlighting an element within a document to indicate which element the user wants to work with

selection bar Unmarked region on the left side of the text area that allows the user to select text one line at a time

Show/Hide button Button on the Standard toolbar that allows the user to display or hide all the nonprinting characters in a document, such as the end-of-paragraph markers or tab characters

Shrink to Fit button Button in the Print Preview window that allows the user to shrink the Preview display to fit the entire document within the window

Spelling button Button on the Standard toolbar that allows the user to check the spelling of the words in a document

Status bar Bar at the bottom of the application window that indicates the user's current location in the document and displays messages

style Named group of formatting commands that allow the user to easily change several formatting aspects of a text at the same time

Style button Button on the Formatting toolbar that indicates the current text style (or group of formatting commands) and allows the user to select another style

subscript Character format that places a character below other characters on the same line

superscript Character format that places a character above other characters on the same line

Table menu Menu that allows the user to insert and format tabular information in a document

table of contents Listing of the chapter and header names within a document

template Master copy of a certain type of document that includes the appropriate page setup, text styles, and other formatting needed to create a specific kind of document

Text Box button Button on the Drawing toolbar that allows the user to attach text to a graphic

Times Roman Common font

Title bar Bar at the top of the application window that contains the application name as well as the current document name

toolbar Row of command buttons, organized by functions, that has a graphical icon representing each function; Word for Windows includes several of these toolbars, each arranged for different purposes

Tools menu Menu that allows the user to access some of Word's specialized tools such as the spelling checker or the Thesaurus

type style Character formats, such as bold or italic, that emphasize a character

typeface Set of characters sharing a similar appearance

underline Character format that emphasizes a character by placing a single line under it

Underline button Button on the Formatting toolbar that indicates whether the text is underlined

undo Command that allows the user to reverse any change made to a document

Undo button Button on the Standard toolbar that allows the user to undo the last action made that changed the document

variable information Within a template, the placehold text appearing between square brackets that the user will replace with his or her own information

vertical scroll bar Scroll bar at the right side of the application window that allows the user to scroll the document vertically

View menu Menu that allows the user to change how a document looks on screen

View Ruler button Button in the Print Preview window that allows the user to display the page ruler above the preview display

Window menu Menu that allows the user to split the application window into several different subwindows

wizards Automated way of creating a new document by making a series of decisions about how it will look

word wrap Word feature that automatically wraps to the next line when the user reaches the right margin

word processor Tool that allows the user to easily create documents—from small letters to complex technical manuals

Zoom Control button Button in the Print Preview window that allows the user to specify the magnfication of the Preview display

Zoom Control button Button on the Standard toolbar that allows the user to increase or decrease the size of the displayed document

INDEX

- alignment, 83–84, 181
- Alignment buttons, 31, 181
- all caps, 85
- Alt-key combinations list, 173–180
- applications
  - exiting, 7
  - selecting, 3, 4
- application windows, 5, 181
  - customizing, 9–10
  - menus in, 6–9, 11–16
  - parts of, 5–6
  - toolbars in, 9–10
- arrow keys, 22
- AutoCorrect, 154–155, 181
- AutoFormat, 68–70, 181
- AutoFormat button, 17, 181

- Backspace key, 25, 49, 52, 181
- banners, 112, 181
- blank lines
  - creating, 25, 77
  - deleting, 104–105
- body of document, 112, 181
- Bold button, 71, 181
- bold type, 181
  - with italic, 71–72
  - keyboard shortcut for, 85
  - selecting, 31, 32, 71, 86
  - *See also* type styles
- bookmarks, 151–152, 167, 181
- borders, 181
  - applying to graphics, 135–136, 141
  - for tables, 139–140
  - types of, 136
- BRAMPTON.DOC (on Student Data Disk), 29–30, 32–34
- Break dialog box, 105
- Bring to Front button, 133, 181
- bulleted lines, 31
- Bullets button, 31, 181
- buttons, 16–18

- captions, 103, 114, 181
- carriage returns, 25
- cells, 136, 138, 181
- centering, 31, 32, 83, 181
- character formatting, 30, 181
  - actions and icons for, 177–178
  - changing in selected words, 32
  - keyboard shortcuts for, 85
  - types of, 65–66
  - viewing, 76–77
  - *See also* fonts; font sizes; type styles
- checkboxes, 10
- Clear
  - in Edit menu, 49, 59
  - in Redo menu, 50
  - in Undo menu, 50
- clip art, 100–101, 181
- Clipboard, 53, 181
  - in copying graphics, 128
  - in moving text, 53–54, 59–60, 97–99
- Close button, 181
- Close command, 7, 29
- closing. *See* exiting
- coloring
  - graphics, 130–132, 141
  - lines, 131–132
- column breaks, 104, 181
  - inserting, 104–105, 114–115, 119
- Columns button, 17, 112, 181
- columns (table), 137, 181
- columns (text), 112, 181
  - changing number of, 112, 120
  - creating in Newsletter Wizard, 95
- commands
  - choosing, 6
  - summary list of, 173–180
- Control menu box, 16
- Copy button, 17, 56, 181
- copying, 181
  - actions and icons for, 176
  - formatting, 74–75, 85, 87
  - graphics, 128
  - text, 55–56, 60, 97–99
- crosshair pointer, 126, 127, 133
- Ctrl-key combinations list, 173–180
- Cut button, 16, 53, 182
- cutting, 181
  - pasting and, 53–54, 59–60
  - *See also* deleting

- dates
  - using Header and Footer, 161
  - using Insert menu, 102–103, 119
- date symbols, 102, 182
- Decrease Indent button, 31, 182
- definitions in Help screen, 15–16
- Delete key, 49, 52, 59, 182
- deleting, 46, 182
  - actions for, 176
  - blank lines, 104–105
  - by cutting, 53–54
  - character to left, 25, 49, 52, 59
  - character to right, 49, 52, 59
  - with Clear command, 49, 59
  - in overtype mode, 51–52
  - page breaks, 105, 119
  - text, 48–49, 51–54, 59
- Demos option, 13–14
- deselecting text, 27, 37, 182
- directories, 18
- .DOC extension, 34, 57
- documents
  - body of, 112, 181
  - creating, 43, 46–48
  - exiting, 7, 29, 38
  - formatting, 30–32
  - inserting, 96–97, 119
  - most recently opened, 8
  - moving to start or end of, 23, 24
  - naming, 33–34, 68, 106
  - opening from File menu, 8, 29, 35
  - opening with Open button, 17–18
  - previewing before printing, 57–59
  - printing, 34, 38, 58
  - sample with Word, 18–19, 29
  - saving, 32–34, 38, 56–57
  - saving as templates, 118–119
  - scrolling through, 19–21, 35, 147, 184–185
  - selecting, 18, 29
  - templates for, 43–46
  - *See also* text
- double underlining, 66, 182
  - keyboard shortcut for, 85
  - *See also* type styles
- drag-and-drop text editing, 54–55, 60, 182
- dragging, 182
  - in drawing, 126, 127
  - frames, 135
  - to select text, 26–28
- drawing, 125–128
  - crosshair pointer in, 126, 127, 133
  - freeform shapes, 127, 182
  - geometric shapes, 126–128, 129–130
  - insertion point in, 126
  - Page Layout view needed for, 126
  - tools for, 125–126, 130, 141
  - *See also* graphics
- Drawing button, 17, 182
- Drawing toolbar, 125–126, 182
- drives
  - selecting when opening documents, 18, 67
  - selecting when saving documents, 57, 106

- editing commands, 174
- Edit menu, 7, 9, 182
  - displaying, 8
  - keyboard shortcuts in, 53–54
- Ellipse button, 127, 141, 182
- End key, 23, 24
- endnotes, 163, 182
  - changing footnotes to, 163–165
- Enter key, 25, 77
- errors. *See also* mistakes
- Examples and Demos option, 13–14
- Exit command, 7
- exiting
  - from applications, 7
  - from documents, 7, 29, 38
  - from Help screen, 16
  - from menus, 8
  - from Word, 35, 38

- fax cover sheet templates, 44–45
- file command actions and icons, 173
- File dialog box, 96–97
- File menu, 7, 182
  - commands in, 7
  - dismissing, 8
  - displaying, 6
  - documents listed in, 8
  - opening documents from, 8, 29, 35
- file names, 34
  - changing, 33–34, 68
  - creating when saving, 106
- files. *See* documents
- fill, 130–132, 141, 182
- Fill Color button, 130, 182
- Find and Replace command, 153–154
- Find dialog box, 149–151
- Find File command, 7
- finding
  - files, 7, 8, 29
  - and replacing text, 153–154
  - text, 149–151
- Font button, 31, 182
- Font dialog box, 73–74, 117
- fonts, 65, 182
  - Arial, 71
  - Chicago, 66
  - in finding text blocks, 150–151
  - Helvetica, 66, 115, 117, 183
  - keyboard shortcut for, 85
  - modifying, 117
  - Palatino, 66
  - selecting, 31, 32, 71, 85, 86
  - Times New Roman, 71, 74
  - Times Roman, 66, 116, 185
  - *See also* character formatting; font sizes; type styles
- Font size button, 31, 182
- font sizes, 66, 182
  - in finding text blocks, 150–151
  - keyboard shortcut for, 85
  - modifying, 117
  - selecting, 31, 71, 74, 85, 86
- footers, 160–161, 167, 182
- footnotes, 162, 182

  - adding, 162–163, 168
  - changing to endnotes, 163–165
- Format menu, 7, 11–12, 113, 182
- Format Painter button, 17, 74–75, 182
- formatting, 30–32, 65–66, 182
  - automatically, 68–67, 86
  - copying with Format Painter, 74–75, 87
  - copying with keyboard shortcut, 80, 85
  - copying with New Style dialog box, 79
  - keyboard actions and icons for, 86–87
  - pasting, 85
  - removing, 85
  - subheadings, 73–75
  - tables, 139–140
  - titles, 71–72
  - using Outline view, 157–159
  - using toolbar buttons, 31–32
  - viewing, 76–77
  - *See also* character formatting; paragraph formatting; styles (text formats)
- Formatting toolbar, 30
  - commands in, 30–31
  - formatting with, 31–32, 82
  - heading styles in, 73, 156
  - selecting, 9–10
- Frame Borders and Shading dialog box, 135–136
- Frame dialog box, 113–114
- frames, 182
  - creating, 134–135, 141
  - resizing, 135
- Freeform button, 127, 141, 182
- Full Screen button, 182

- Go To dialog box, 148–149, 152
- grammar check, 106
- graphics
  - actions and icons for, 179
  - changing order of, 132–133, 141
  - coloring, 130–132, 141
  - copying and pasting objects, 128
  - creating, 125–131
  - frames for, 134–135, 141
  - handles on, 100, 135
  - inserting, 100–102, 119
  - joining objects, 127–128
  - moving objects, 129, 141
  - repositioning, 112–114, 120
  - selecting, 141
  - selecting objects, 127, 141
  - text boxes for, 133–134
  - *See also* drawing
- Group button, 128, 182
- group icons, 4
- group windows, 4, 182

- handles, 182
  - on frames, 135
  - on graphics, 100, 135
- headers, 160, 182–183
  - automatically created, 99
  - page, 161–162, 167
  - topic, 103
- Heading Numbering dialog box, 156
- headings
  - formatting, 72–74
  - numbering, 155–156, 167
  - in table of contents, 166
  - viewing levels of, 158
- headlines, 103
- Help button, 17, 76–77, 183
- Help Contents dialog box, 13–14
- Help menu, 7, 13–14, 183
- Help screen, 13–14
  - displaying definitions in, 15–16
  - exiting, 16
  - selecting topics in, 14–15
- hidden text, 85
- highlighting, 26–27, 183
  - *See also* selecting
- Home key, 23, 24
- horizontal scroll bar, 19–20, 21, 183

- I-beam pointer, 22, 183
- icons
  - buttons, 16–18
  - for file commands, 173
  - for formatting, 86–87
  - for graphics, 179
  - for groups, 4
  - for Microsoft Office, 4, 5
  - for moving and copying, 176
  - for screen display, 178
  - for selecting text, 175–176
  - starting applications with, 3
  - for tables, 179–180
  - for Word application, 3, 4, 5, 173
  - for writing tools, 180
- illustrations. *See* graphics
- Increase Indent button, 31, 183
- indentation, 75, 183
  - selecting, 31, 75–77, 87
- Index and Tables dialog box, 165–166
- Insert Auto Text button, 17, 183
- Insert Chart button, 17, 183
- Insert Frame button, 135, 141, 183
- inserting
  - column breaks, 104–105, 114–115, 119
  - dates, 102–103, 119, 161
  - documents, 96–97, 119
  - graphics, 100–102, 119
  - table of contents, 165
  - *See also* moving; pasting
- insertion point, 21–22, 183
  - in drawing, 126
  - indicated on Status bar, 23
  - moving, 22–24, 26, 36, 174–175
  - in paragraph formatting, 31–32
  - in placing rows, 138–139
  - in placing tables, 137
  - within cells, 138
  - within tables, 138, 141
- Insert key, 51, 52, 183
- Insert menu, 7, 11, 183
- Insert Microsoft Excel Worksheet button, 183
- Insert Picture dialog box, 100–101
- Insert Table button, 17, 183
- Italic button, 31, 183
- italic type, 66, 183
  - with bold, 71–72
  - keyboard shortcut for, 85
  - selecting, 31, 86
  - *See also* type styles

- justifying, 31, 84, 183

- keyboard actions
  - for choosing commands, 6
  - for dismissing menus, 8
  - for displaying menus, 6
  - for formatting, 85, 86–87
  - for moving through text, 22–24
  - for selecting templates, 59
  - for selecting text, 27–28
  - summary list of, 173–180
  - *See also* keyboard shortcuts
- keyboard shortcuts
  - for character formatting, 85
  - in Edit menu, 53–54
  - for Repeat command, 80
  - *See also* keyboard actions

- Landscape orientation, 111, 183
- layout. *See* page layout
- left align, 83, 183
- LESSON1.DOC (on Student Data Disk), 33–34
- Line button, 129–130, 141, 183
- Line Color button, 132, 183
- lines (in graphics), 183
  - coloring, 131–132, 141
  - creating, 129–130, 141
- lines (of text)
  - bulleting, 31, 181
  - going to beginning or end of, 23, 24
  - going to specific, 147–149
  - moving among, 23–24
  - numbering, 31, 184
  - scrolling through, 19–21
  - selecting, 27, 28, 37
  - *See also* text
- locking, 130, 183
- LONGDOC.DOC (on Student Data Disk), 147–148

- magnification, 107, 183
  - changing, 107–109, 117, 120
- Magnifier button, 183
- margins, 110, 183
- Margins command, 110
- MEMO.DOC (on Student Data Disk), 57
- memo templates, 43, 46–48
- Menu bar, 6–7, 183
- menus
  - dismissing, 8
  - displaying, 6
- Microsoft Office, 3, 4, 5
- Microsoft Word. *See* Word for Windows
- mistakes
  - correcting existing, 153–154, 167
  - correcting while typing, 154–155, 167
  - spelling check, 106–107, 119
  - *See also* deleting
- Modify Style dialog box, 81, 116–117
- mouse actions
  - for choosing commands, 6
  - for dismissing menus, 8
  - for displaying menus, 6
  - drag-and-drop technique, 54–55, 60, 182
  - in drawing, 126, 127, 135
  - for moving insertion point, 26
  - for moving through text, 22–24
  - for scrolling, 19–21
  - for selecting text, 26–28
  - summary list of, 173–180
- moving
  - actions and icons for, 176
  - to bookmarks, 152, 167
  - captions, 114
  - graphics, 112–114, 120
  - insertion point, 22–24, 36, 174–175
  - objects, 129, 141
  - scrolling through document, 19–21, 147
  - to specific page or line, 147–149, 167
  - *See also* inserting; pasting
- Multiple Pages button, 183

- names of documents
  - in application window, 5
  - creating, 33–34, 68, 106
- New button, 16, 184
- NEWDEMO.DOC, 18–19, 29
- New dialog box, 43–44, 93–94
- newsletters
  - dates, 102–103, 119
  - designing with wizard, 93–96
  - graphics in, 100–102
  - headers in, 103
  - headlines in, 103
  - text in, 96–100
- Newsletter Wizard, 93–96
- New Style dialog box, 79
- Normal style, 72, 115
- Normal template, 44
- Normal view, 84, 107, 120, 184
- Note options dialog box, 164
- notes, 102
  - *See also* endnotes; footnotes
- numbering
  - footnotes, 163, 164
  - headings, 155–156, 167
  - lines, 31, 184
  - pages, 102, 160
- numeric keypad, 22, 31
- Num Lock, 22

- objects. *See* graphics
- One Page button, 184

Open button, 16, 184
Open command, 6, 7
Open dialog box, 17–18, 29
opening
  documents from File menu, 8, 29, 35
  documents with Open button, 17–18
  group windows, 4
Outline view, 157–159, 167, 184
overtype mode, 51–52, 59, 184
OVR (overtype indicator), 51

page breaks, 99–100, 184
  adding, 102
  deleting, 105, 119
Page Down key, 23, 24
page headers. *See* headers
page layout
  changing, 109–110, 112, 120
  designing with wizard, 93–96, 104–105
  page setup options, 110–111
  See also formatting; templates
Page Layout view, 83, 107, 184
  magnification of, 107, 108–109, 117, 120
  necessary for drawing, 126
  selecting, 84, 107–108, 120
page numbers, 184
  going to specific, 147–149
  indicated by Status bar, 23
  inserting, 102, 160, 167
  in table of contents, 166
Page Numbers dialog box, 160
page orientation, 111, 184
page setup, 109–111, 120, 184
Page Setup command, 7, 109–110
Page Setup dialog box, 110
Page Up key, 23, 24
Paper Size commands, 110–111
Paragraph dialog box, 76–78, 81
paragraph mark symbols, 104
paragraphs
  alignment of, 31, 83–84, 181
  changing spacing between, 77–78
  formatting, 30–32, 76–77, 178, 184
  indenting, 31, 75–77, 87
  moving among, 23–24
  selecting, 27, 28, 37
  separating, 25, 77–78
  See also text
paragraph spacing, 77, 184
Paste button, 17, 53, 56, 184
pasting, 184
  copying and, 55–56, 60, 97–99, 128
  cutting and, 53–54, 59–60
  formatting, 85
  graphics, 128
  See also inserting; moving
picture drawing. *See* drawing
pictures. *See* graphics
placeholder dates, 102
placeholder text, 98–99, 103
pointers
  crosshair, 126, 127, 133
  I-beam, 22, 183
point size. *See* font size
Portrait orientation, 111, 184
press release template, 70
Print button, 16, 58, 184
Print command, 7, 34
printing, 34, 38, 58
Print Preview button, 16, 184
Print Preview command, 7, 57–59, 184
Print Preview dialog box, 57–59
Program Manager window, 3, 4
Programming with Microsoft Word option, 13–14

quitting. *See* exiting

Rectangle button, 126, 141, 184
Redo button, 17, 184
Redo menu, 50
Reference Information option, 13–14
Repeat command, 80
Replace dialog box, 153–154
replacing
  with Find and Replace command, 153–154
  with overtype mode, 51
  selected text, 98–99, 103
report template, 70
resume template, 46
right align, 83–84, 184
rows, 184
  inserting, 138–139, 141
  specifying number of, 137
ruler, 10, 184
  displaying, 10, 35
  indenting paragraphs with, 76, 87
  in Page Layout view, 126
running head, 160, 184

Save As command, 7, 33, 68
Save As dialog box, 33–34, 57
Save button, 16, 57, 184
Save command, 7
saving
  changes to document, 29
  changing drive when, 57
  documents to disk, 32–34, 38, 56–57
  naming when, 106
  renaming when, 33–34, 68
SCHLFISH.WFM (on Student Data Disk), 101
screen display. *See* views
scroll arrows, 19, 21, 184–185
scroll bars, 19–20, 21, 185
scroll boxes, 19–20, 21, 185
scrolling, 19–21, 35, 147, 184–185
searching, 149–151
sections, 185
  breaks between, 105
  going to specific, 147–149
  indicated on Status bar, 23
selecting, 185
  applications, 3, 4
  blank lines, 104
  character formatting, 31, 32, 71–72
  document files, 18, 29
  drives, 18, 57, 67, 106
  entire document text, 28, 37
  fonts, 31, 32, 71, 85, 86
  font sizes, 31, 71, 74, 85, 86
  graphics, 100, 127, 141
  Help topics, 14–15
  indentation, 31, 75–77, 87
  lines of text, 27, 28, 37
  paragraphs, 27, 28, 37
  sentences, 37, 53
  styles, 31
  templates, 59
  toolbars, 9–10, 31, 35, 125
  type styles, 31, 32, 71, 86
  views, 84, 107–108, 120
  windows, 38
  wizards, 93–94, 119
  words, 27, 28, 37
selection bar, 185
sentences selection, 37, 53
Shift-key combinations list, 175–178
Shift key for extending selection, 26–27, 28
shortcut keys. *See* keyboard actions; keyboard shortcuts
Show/Hide button, 17, 185
Shrink to Fit button, 185
small caps, 85
Spelling button, 16, 185
spelling check, 105–106, 119
  AutoCorrect, 154–155
Standard toolbar, 10
  accessing commands from, 16
  commands on, 16–17
  selecting, 9–10
STARGAZE.DOC (on Student Data Disk, 67
starting
  Windows, 4
  Word for Windows, 3–5
Status bar, 23, 185
STORY1.DOC (on Student Data Disk), 96, 97
STORY2.DOC (on Student Data Disk), 98
Student Data Disk
  BRAMPTON.DOC, 29–30, 32–34
  LESSON1.DOC, 33–34
  LONGDOC.DOC, 147–148
  MEMO.DOC, 57
  SCHLFISH.WFM, 101
  STARGAZE.DOC, 67
  STORY1.DOC, 96, 97
  STORY2.DOC, 98
Style button, 31, 185
Style dialog box, 78–79, 81–82, 116–117
Style Gallery, 69–70
styles (text formats), 185
  actions and icons for, 178
  creating, 78–79
  modifying, 81–82, 115–117, 120
  predefined, 72–73
  repeating, 80
  selecting, 31
  See also formatting; templates
styles (type). *See* fonts; type styles
subheading formatting, 73–75
subscript, 66, 185
  keyboard shortcut for, 85
superscript, 66, 185
  keyboard shortcut for, 85
symbols, 102
  date, 182
  paragraph, 104

Table AutoFormat dialog box, 139–140
table of contents, 165–167, 168, 185
Table menu, 7, 12, 185
tables
  actions and icons for, 179–180
  borders for, 139–140
  columns, 137, 221
  creating, 136–138
  filling in, 138–139
  formatting, 139–140
  moving insertion point within, 138
  placing, 137
Technical Support option, 13–14
Template command, 109
templates, 43, 185
  in AutoFormat, 69–70
  creating, 109, 118–119, 120
  customizing, 93
  in New dialog box, 43–44, 93–94
  selecting, 59
text
  copying and pasting, 55–56, 60, 97–99
  cutting and pasting, 53–54, 59–60
  deleting, 48–49, 51–54, 59
  deselecting, 27, 37, 182
  dragging-and-dropping, 54–55
  locating specific blocks of, 149–151, 167
  moving through, 22–24
  moving to another place, 53–55
  replacing after selecting, 98–99, 103
  replacing with Find and Replace, 153–154
  replacing with overtype mode, 51
  selecting, 26–28, 37, 175–176
  typing, 24–26
  See also documents; styles (text formats)
text box, 133–134, 141
Text Box button, 133, 141, 185
text formats. *See* formatting; styles (text formats); templates
thesaurus, 106
"Tip of the Day" dialog box, 4, 5

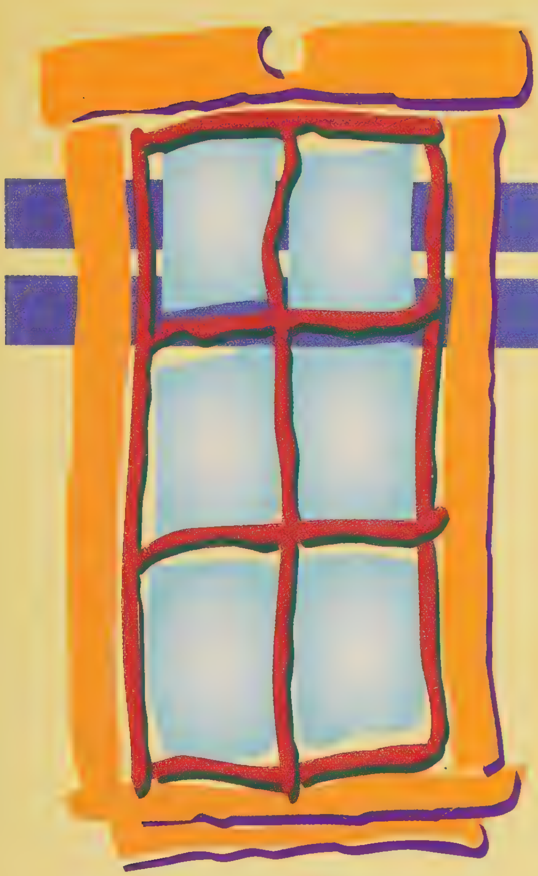
Title bar, 5, 185
toolbars, 9–10, 185
  Drawing, 125–126, 141, 182
  Formatting, 10, 30–32, 73, 82, 156
  selecting, 9–10, 31, 35, 125
  Standard, 10, 16–17
Toolbars dialog box, 9–10
Tools menu, 7, 12, 105–106, 185
typefaces. *See* fonts
type styles, 66, 185
  in combination, 71–72
  in finding text blocks, 150–151
  keyboard shortcuts for, 85
  selecting, 31, 32, 71–72, 86
  See also fonts
typing, 24–25

Underline button, 31, 185
underlining, 66, 185
  double, 85, 182
  keyboard shortcut for, 85
  selecting, 31, 86
  See also type styles
Undo button, 17, 50, 185
undoing actions, 49–50, 59, 185
Undo menu, 50, 59
Using Word option, 13–15

vertical scroll bar, 19–20, 21, 185–186
View menu, 7, 8, 9, 107, 108, 186
View Ruler button, 186
views
  actions and icons for, 177
  magnification of, 107, 108–109, 117, 120
  Normal, 84, 107, 120, 184
  Outline, 157–159, 184
  Page Layout, 83, 107–109, 184
  Whole Page, 108–109

.WFM files, 101
Whole Page view, 108–109
Window menu, 7, 13, 186
windows
  moving one up or down, 24
  moving to bottom of, 24
  selecting, 38
  starting, 4
  See also application windows
Windows desktop, 4, 35
wizards, 93, 186
  creating designs with, 94–96
  selecting, 93–94, 119
Word application window. *See* application windows
WORDCBT directory, 18
Word Help screen. *See* Help screen
Word Menu bar, 6–7, 183
word processors, 3, 186
words
  moving among, 21–24
  selecting, 27, 28, 37
  underlining, 85
Word for Windows
  exiting, 35, 38
  icon for, 3, 4, 5, 173
  starting, 3–5
word wrap, 25, 186

Zoom Control button, 17, 186



MICROSOFT EXCEL FOR WINDOWS

A TUTORIAL TO ACCOMPANY PETER NORTON'S INTRODUCTION TO COMPUTERS

TERRENCE P. O'DONNELL

GLENCOE
MCGRAW-HILL

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Microsoft Excel for Windows
A Tutorial to Accompany
Peter Norton's Introduction to Computers

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CONTENTS

Preface, vii

LESSON 1
STARTING EXCEL AND CREATING A BUDGET WORKSHEET 2

Objectives, 2
Using a Spreadsheet, 3
Working with Budgets, 4
Starting the Excel Spreadsheet Program, 6
Exploring the Excel Desktop, 8
Using the Excel Worksheet, 9
Cells: The Basic Worksheet Unit, 9
Ranges: Blocks of Worksheet Cells, 10
Reading the Status Bar, 11
Moving the Cell Cursor Around the Worksheet, 11
    Using the Keyboard to Move the Cell Cursor, 11
    Using Two Keys in Sequence, 12
Entering Labels, 14
    Using the Formula Bar, 14
Entering Values, 18
Building Formulas, 20
    Using Operators in Formulas, 20
    Pointing to Cells While Building Formulas, 21
Saving a Workbook File, 23
    Selecting Commands, 23
    Changing the Working Directory, 25
    Using Dialog Box Options, 26
    Using Your Student Data Disk, 26
Displaying Help Information, 28
    Browsing the Help Contents, 28
    Using the Help Window Buttons, 29
    Selecting a Topic from the Help Index, 29
    Getting Context-Specific Help, 30
    Navigating the Help Window, 30
    Exiting Help, 31
Printing a Range of Data, 33
    Selecting Ranges for Command Operations, 34
Updating an Existing Workbook File, 36
Closing an Excel Workbook File, 36

Exiting Excel, 37
Command Summary, 38
Matching Exercise, 38
Multiple-Choice Questions, 39
Short-Answer Questions, 40
Application Projects, 41

LESSON 2 EDITING AND FORMATTING A BUDGET WORKSHEET 44

Objectives, 44
Opening a Workbook File, 45
    Opening a New Workbook, 45
    Opening an Existing Workbook, 45
Copying Data, 46
    Copying Data by Dragging It, 47
    Using the Undo Command, 48
Copying Formulas, 51
    Using Relative Cell References in Formulas, 52
Using Excel Functions, 54
    Using the SUM Function, 55
Defining a Range Name, 57
    Using the Name Box, 58
    Using Labels to Create Range Names, 59
    Deleting Range Names, 60
Naming Worksheets, 62
Using Absolute Cell References in Formulas, 63
Using Mixed Cell References in Formulas, 65
    Cycling Through Cell References, 67
    Editing an Existing Cell Entry, 67
Formatting Worksheet Data, 69
    Formatting a Range of Values, 70
    Using Formatting Toolbar Buttons, 71
Changing Column Widths, 73
    Changing Standard Column Widths, 73
    Changing the Width of a Single Column, 73
    Changing the Widths of a Range of Columns, 74
    Setting a Column for Automatic Adjustment, 74
Selecting Nonadjacent Ranges, 75
Aligning a Range of Labels, 79
Command Summary, 81
Matching Exercise, 82
Multiple-Choice Questions, 82
Short-Answer Questions, 84
Application Projects, 85

LESSON 3
USING ADVANCED WORKSHEET EDITING FEATURES 90

Objectives, 90
Inserting and Deleting Rows and Columns, 91
    Deleting Columns or Rows, 93
    Inserting and Deleting Cells, 94
Using the AVERAGE Function, 98
    Using Excel's Function Wizard, 98
Using the Logical IF Function, 102
Moving a Range of Data, 104
    Dragging Data, 105
Clearing a Range of Data, 106
Saving a Workbook File Under a Different Name, 107
    Creating a Template File, 107
Finding Data, 109
    Finding and Replacing Data, 110
Performing What-if Analyses, 112
Using Excel's Goal Seek Tool, 114
Using the Solver Add-In Program, 116
    Setting Up Solver, 117
    Saving Scenarios, 118
Moving or Copying Data to Another Workbook File, 124
    Working with Multiple Worksheets, 124
Linking Data Between Two Worksheets, 126
Command Summary, 129
Matching Exercise, 130
Multiple-Choice Questions, 131
Short-Answer Questions, 133
Application Projects, 133

LESSON 4
CUSTOMIZING EXCEL AND SETTING UP PRINTED PAGES 138

Objectives, 138
Changing Program Options, 139
    Using General Options, 139
    Using View Options, 140
    Using Edit Options, 141
    Using Calculation Options, 142
    Using Color Options, 143
    Viewing Other Option Sets, 144
Customizing the Program Window's Display, 146
    Controlling the Display of Toolbars, 147
    Resizing Toolbars with the Mouse, 148
Modifying the Worksheet Window's Display, 151
Freezing Worksheet Window Panes, 152
Splitting the Worksheet Window, 155
    Splitting the Window with the Mouse, 155
    Working with a Split Worksheet Window, 157

Using Excel's Printing Features, 159
    Adjusting Margins, 159
    Setting Headers and Footers, 160
    Setting Print Titles, 160
    Using Page Breaks, 161
    Using Print Preview, 161
Command Summary, 166
Matching Exercise, 166
Multiple-Choice Questions, 167
Short-Answer Questions, 168
Application Projects, 169

LESSON 5
CREATING CHARTS AND ENHANCING WORKSHEET DATA 172
Objectives, 172
Using Charts, 173
    Using Chart Elements, 173
Creating a Chart, 176
    Creating an Embedded Chart, 176
    Creating a Separate Chart Sheet, 177
Using the ChartWizard, 177
    Using the ChartWizard's Five-Step Procedure, 178
Creating a Column Chart, 180
Creating a Pie Chart, 182
    Modifying Colors and Hatch Patterns, 183
    Hiding Columns and Rows, 184
Modifying Chart Elements, 187
Printing Charts, 191
Enhancing Worksheet Data, 194
    Formatting Ranges with Fonts and Attributes, 194
    Centering Label Text, 196
    Formatting Ranges with Borders and Shading, 196
    Using Excel's AutoFormats, 197
Copying Format Features, 200
Applying Formatting to an Object, 203
    Applying a Shadow Effect, 203
Command Summary, 207
Matching Exercise, 208
Multiple-Choice Questions, 208
Short-Answer Questions, 210
Application Projects, 211

COMMAND SUMMARY 215

GLOSSARY 221

INDEX 227

PREFACE

This *Microsoft Excel for Windows Tutorial* is one of the instructional tools that complement *Peter Norton's Introduction to Computers*. Glencoe and Peter Norton have teamed up to provide a new approach to computer education, one not reflected in traditional computer textbooks. The text and its ancillary materials are grounded in the philosophy that knowledgeable, empowered end users will provide the gains in productivity that both businesses and individuals need in the 1990s and beyond. Mere button pushing is not enough; in order to handle increasingly complex computer tasks, both in the workplace and in the home, computer users must understand the concepts behind their computer hardware and software.

STRUCTURE AND FORMAT OF THE MICROSOFT EXCEL FOR WINDOWS TUTORIAL

This book exposes you to a range of functions and techniques. You will be given the opportunity to perform these functions several different ways. You will see that Microsoft Excel for Windows can adapt to the way you want to work, rather than your adapting to it. Because Microsoft Excel for Windows is such a rich program, practicing new functions and techniques is an important part of your work. To help you practice, each lesson includes the following:

- *Explanations of important concepts*. Each section of each lesson begins with a quick explanation of the concept or software feature being covered. The explanations help you understand "the big picture" as you learn each new facet of the program.
- *New terms in boldface*. An important part of learning about computers is learning the terminology. Each new term in the text is set in **boldface** and defined the first time that it is used. As you encounter these words, read their definitions carefully. If you encounter the same word later and have forgotten its meaning, you can look it up in the Glossary at the back of the book.
- *Step-by-step instructions*. Because most students learn best by doing, each explanation is followed by a concise set of steps, which you complete at the computer. As you perform the steps, you will be creating and modifying real Microsoft Excel for Windows documents.
- *Many illustrations*. As you work through the tutorial, you will find many figures that help you stay on track. The figures are used to point out features on the screen and illustrate what your screen should look like after important steps are completed.

- *Command Summaries.* At the end of each lesson, there is a Command Summary that reviews both mouse and keyboard techniques for completing each task covered in the lesson. Where toolbar buttons are available, they are also included in the Command Summary.
- *Review exercises.* Following the Command Summary, you will find three types of objective questions: a matching exercise, multiple-choice questions, and short-answer questions. Completing these exercises will help you make sure that you have learned all the concepts and skills that have been covered in the lesson.
- *Application projects.* The last element in each lesson is a set of Application Projects that can give you extra hands-on practice using your problem-solving skills and the techniques you have learned in the lesson to create or modify real Microsoft Excel for Windows documents.
- *Command Summary, Glossary and Index.* At the back of the book, there are a Command Summary, Glossary and an Index. Use the Glossary to look up terms that you don't understand and the index to find specific information in the book.
- *Student Data Disk.* Attached to the inside back cover of this book you will find a floppy disk called the Student Data Disk. This disk contains Microsoft Excel for Windows files that you will use to complete the step-by-step and hands-on exercises in the book. You should make a copy of this disk immediately.

After you complete this book, you will have the skills necessary to create, process, and present information in a variety of ways using Microsoft Excel for Windows.

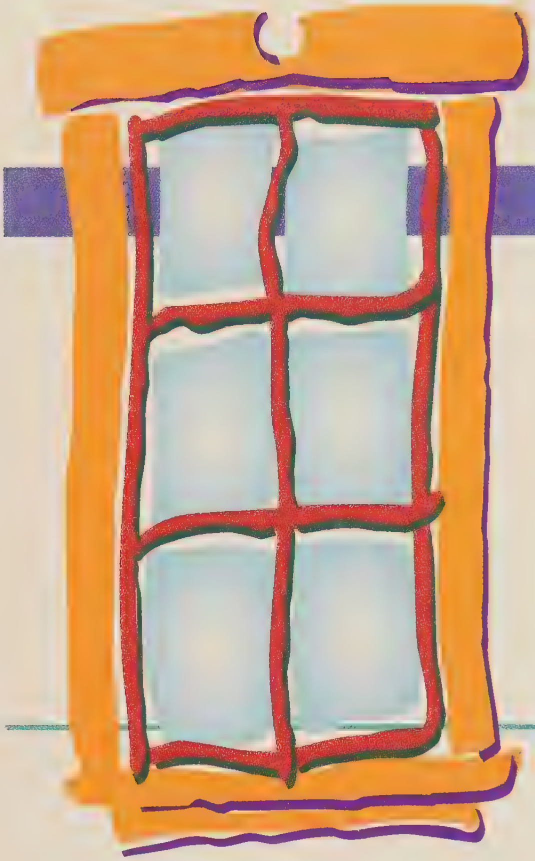
ABOUT PETER NORTON

Peter Norton is a pioneering software developer and author. Norton's *Desktop for Windows*, *Utilities*, *Backup*, *AntiVirus*, and other utility programs are installed on millions of PCs worldwide. His *Inside the IBM PC* and *DOS Guide* have helped millions of people understand computers from the inside out.

Glencoe has teamed up with this trusted name in computers to help you better understand the role computers play in your life. You may use this resource as a textbook now and a reference book later as you begin your productive use of computers in your chosen profession.

REVIEWER

Many thanks are due to Pat Fenton, West Valley College, who reviewed the manuscript and gave advice on how to improve the book.



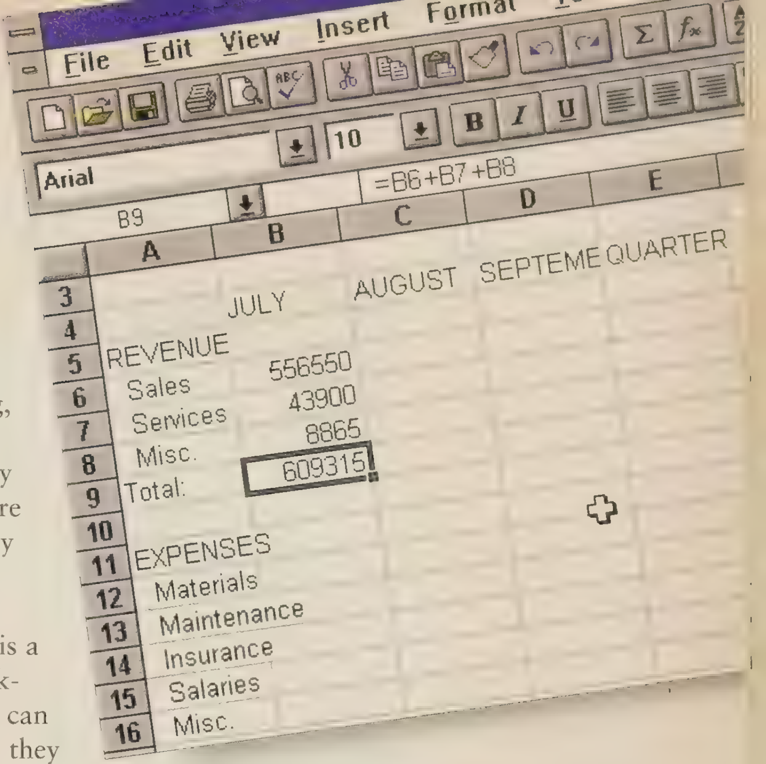
LESSON 1

STARTING EXCEL AND CREATING A BUDGET WORKSHEET

OBJECTIVES

After completing this lesson, you will be able to:

- *Start and exit the Excel for Windows program.*
- *Get to know the Excel program window.*
- *Move the cell cursor.*
- *Enter labels, values, and formulas.*
- *Select commands from Excel's pull-down menus.*
- *Save a workbook file.*
- *Use the Excel Help feature.*
- *Select ranges.*
- *Print a range of data.*



B9

=B6+B7+B8

	A	B	C	D	E
3		JULY	AUGUST	SEPTEME	QUARTER
4					
5	REVENUE				
6	Sales	556550			
7	Services	43900			
8	Misc.	8865			
9	Total:	609315			
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				

An electronic **spreadsheet** is a tool that provides you with tremendous flexibility for storing, managing, analyzing, and manipulating numerical information. In the same way that word processing software is a tool for creating a variety of documents—like letters, memos, notes, reports, and manuscripts—a spreadsheet is a tool you use to develop worksheets. Although **worksheets** can take on a variety of formats, they basically are matrices or tables that store text, numbers, and formulas. Worksheets can be applied toward projects that require simple or complex numeric calculations.

This book is designed to give you a comprehensive introduction to the use of a spreadsheet as you learn to work with Microsoft Excel for Windows. The Excel program is a commercial spreadsheet that is used widely in businesses, homes, schools, and other institutions. To help you learn to apply the Excel spreadsheet to specific projects, you will begin to create a worksheet that is used to plan and analyze a company's short-term financial status. As you begin developing this worksheet in this lesson, you will become familiar with Excel's desktop environment and learn how to enter data, select commands, move the cell cursor around the worksheet, get help, save a worksheet in a workbook file, and print a range of data.

USING A SPREADSHEET

When you consider that computer applications software is a tool that we use to complete tasks, the use of a spreadsheet is really only limited by your imagination. Just as you can use an adjustable wrench for repairing or building untold devices, you can apply a spreadsheet toward a wide range of projects that require calculations using numeric data—including everything from determining household expenses to estimating the dimensions of a building's foundation or maintaining extensive inventories.

Many individuals and employees use a spreadsheet to develop budget worksheets that help them estimate the flow of money for a home, business, or any other organization. A budget, which we will discuss shortly, is a common application for which we use spreadsheets. However, spreadsheets can be used to create a model for decision-making analyses (see Figure 1-1); to graphically represent numeric data (see Figure 1-2); and to

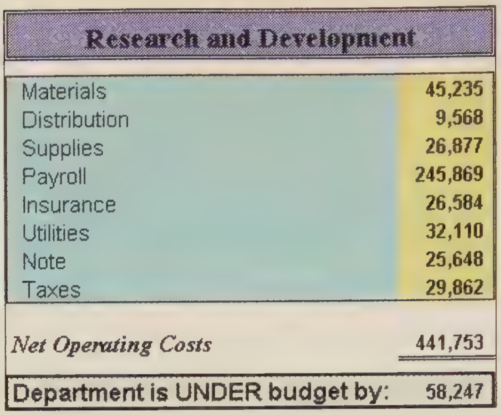


FIGURE 1-1
Worksheets can store data as models used for analyzing situations and making decisions.

Research and Development	
Materials	45,235
Distribution	9,568
Supplies	26,877
Payroll	245,869
Insurance	26,584
Utilities	32,110
Note	25,648
Taxes	29,862
Net Operating Costs	441,753
Department is UNDER budget by:	58,247

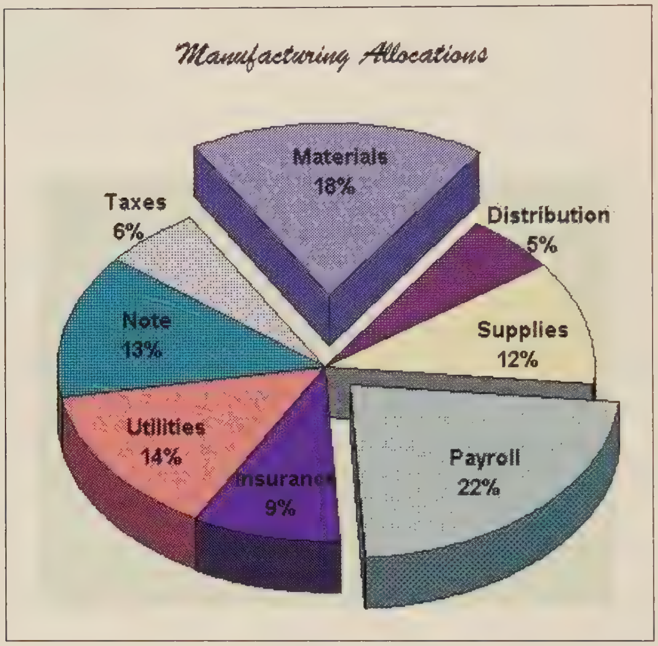


FIGURE 1-2
Spreadsheets can be used to generate charts or graphs that graphically represent worksheet data.

store tables of database information (see Figure 1-3). Spreadsheets can also be applied toward scientific problems, engineering projects, and many other tasks that involve computations.

WORKING WITH BUDGETS

As we mentioned earlier, a common use of spreadsheet software is to develop a **budget** worksheet, which shows a company's or individual's financial projections, or estimates, for an upcoming period. Whether simple or complex, all budgets are used to calculate estimates for the amounts of money a company or individual expects to earn, spend, and have left at the end of the period.

Estimated amounts that a company or individual expects to earn are called **revenue** or **gross income**, and estimated amounts to be spent are called **costs** or **expenses**. The estimated amount a company expects to have

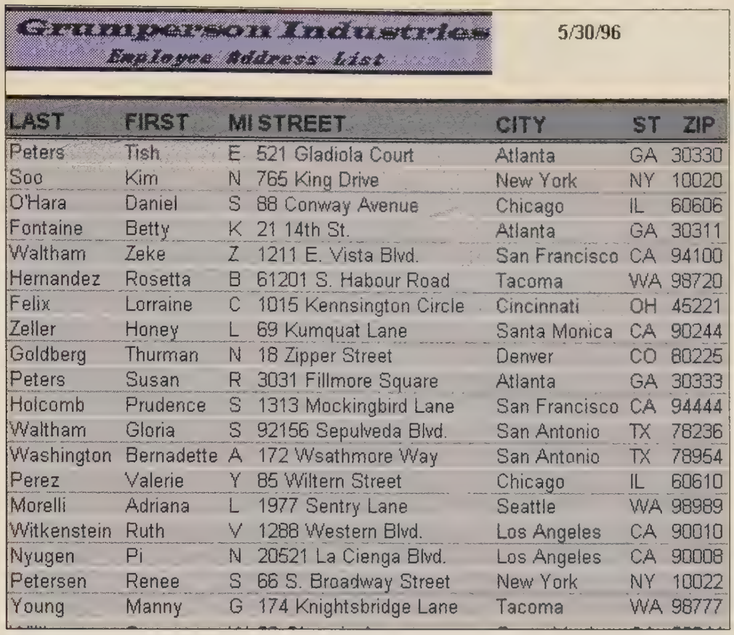


FIGURE 1-3
Spreadsheets can be used to store, manage, and manipulate data in database worksheets.

Grumperson Industries
Employee Address List
5/30/96

LAST	FIRST	MI	STREET	CITY	ST	ZIP
Peters	Tish	E	521 Gladiola Court	Atlanta	GA	30330
Soo	Kim	N	765 King Drive	New York	NY	10020
O'Hara	Daniel	S	88 Conway Avenue	Chicago	IL	60606
Fontaine	Betty	K	21 14th St.	Atlanta	GA	30311
Waltham	Zeke	Z	1211 E. Vista Blvd.	San Francisco	CA	94100
Hernandez	Rosetta	B	61201 S. Habour Road	Tacoma	WA	98720
Felix	Lorraine	C	1015 Kennsington Circle	Cincinnati	OH	45221
Zeller	Honey	L	69 Kumquat Lane	Santa Monica	CA	90244
Goldberg	Thurman	N	18 Zipper Street	Denver	CO	80225
Peters	Susan	R	3031 Fillmore Square	Atlanta	GA	30333
Holcomb	Prudence	S	1313 Mockingbird Lane	San Francisco	CA	94444
Waltham	Gloria	S	92156 Sepulveda Blvd.	San Antonio	TX	78236
Washington	Bernadette	A	172 Wsathmore Way	San Antonio	TX	78954
Perez	Valerie	Y	85 Wiltern Street	Chicago	IL	60610
Morelli	Adriana	L	1977 Sentry Lane	Seattle	WA	98989
Witkenstein	Ruth	V	1288 Western Blvd.	Los Angeles	CA	90010
Nyugen	Pi	N	20521 La Cienga Blvd.	Los Angeles	CA	90008
Petersen	Renee	S	66 S. Broadway Street	New York	NY	10022
Young	Manny	G	174 Knightsbridge Lane	Tacoma	WA	98777

left is called **net income**, which is the mathematical difference after you subtract total expenses from total revenue.

Budgets can represent estimates as simple as someone's monthly income and household expenses, or they can represent projections as complex as annual revenues and expenses for a worldwide corporation. As you become acquainted with Microsoft Excel for Windows in this lesson, you will begin developing a budget worksheet for a fictitious business. Figure 1-4 shows the budget worksheet you will create and modify as you work through this book.

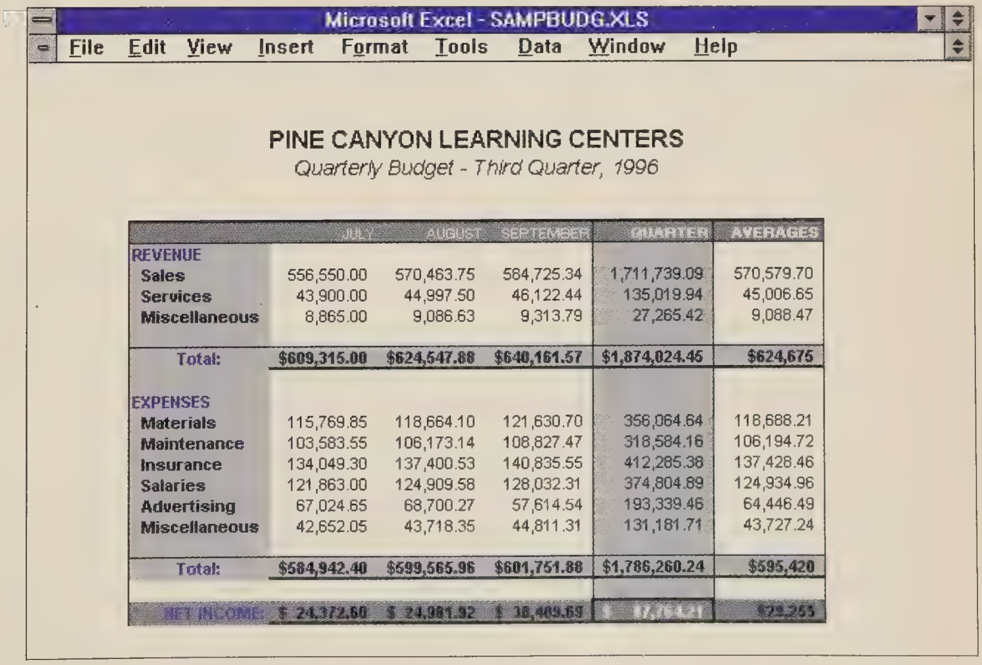


FIGURE 1-4
This worksheet shows a company's third-quarter budget. You create this worksheet as you work through the lessons in this book.

PINE CANYON LEARNING CENTERS
Quarterly Budget - Third Quarter, 1996

	JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES
REVENUE					
Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70
Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65
Miscellaneous	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47
Total:	$609,315.00	$624,547.88	$640,161.57	$1,874,024.45	$624,675
EXPENSES					
Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21
Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72
Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46
Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96
Advertising	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49
Miscellaneous	42,652.05	43,718.35	44,811.31	131,181.71	43,727.24
Total:	$584,942.40	$599,565.96	$601,751.88	$1,786,260.24	$595,420
NET INCOME:	$ 24,372.60	$ 24,981.92	$ 38,409.69	$ 87,764.21	$29,255

STARTING THE EXCEL SPREADSHEET PROGRAM

Starting Excel is a fairly simple process. First you must turn on the computer, and then you need to start the Microsoft Windows interface. Typically, you do this by typing **win** at the DOS prompt. Some systems, however, are set up to load Microsoft Windows when the computer is switched on. In either case, once Windows loads, you merely need to locate the Microsoft Excel program icon in the appropriate group window.

You open a group window using any of the following methods:

- Double-click (rapidly press and release the left mouse button twice) on its icon from within Windows' Program Manager (see Figure 1-5).
- Select (click once on) its icon, and select the Restore command on the group window's pop-up menu.
- Select (highlight) its icon, and select the Open command on the Windows' File pull-down menu (or press Enter).

Once you can see the Microsoft Excel program icon on your screen, all you have to do to load the program is to either double-click on the icon, or select it and then select the File menu's Open command (or press Enter).

START EXCEL

You will begin this lesson by starting the Microsoft Excel spreadsheet program.

1. Turn on the computer, if necessary.
2. Check to make sure the monitor is turned on, if it has a separate power switch.
3. Start the Microsoft Windows program, if necessary.
4. Open the Program Manager window.

   An example of an open Program Manager window is shown in Figure 1-5.

5. Double-click on the group icon that contains the Microsoft Excel program icon.

NOTE *Depending on your system, this group icon may be labeled "Windows Applications," "Applications," "Microsoft Office," or some other label. An example is shown in Figure 1-6.*

6. Double-click on the Microsoft Excel icon.

   The Excel program loads after displaying a copyright screen briefly.

FIGURE 1-5

This is an example of an open Program Manager window in the Microsoft Windows interface.

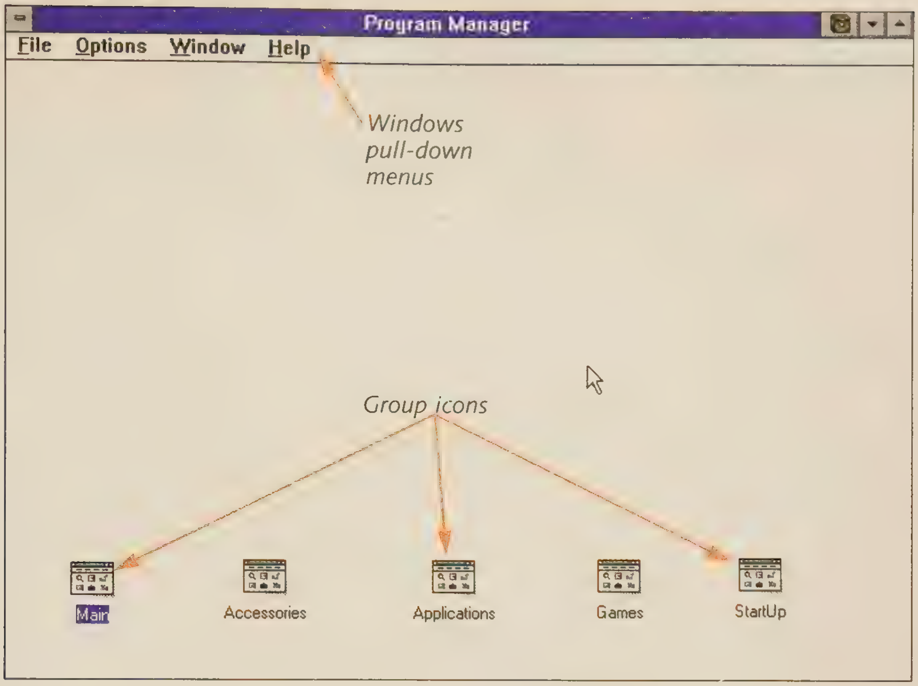
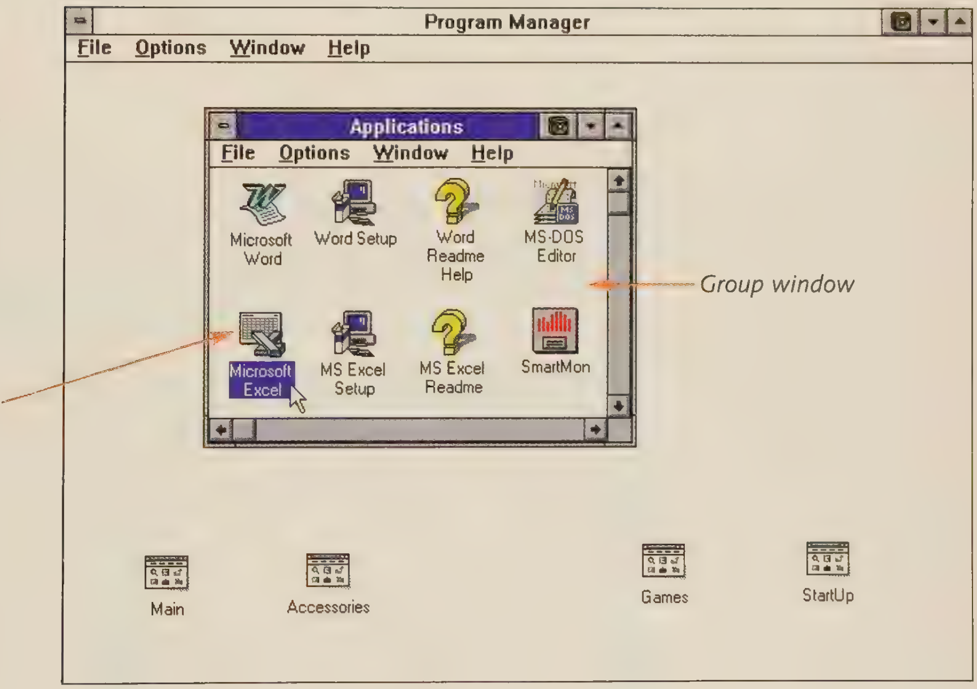


FIGURE 1-6

Open the appropriate group window to display the Microsoft Excel for Windows icon. Then double-click on the icon to start the Excel program.



Excel program icon

EXPLORING THE EXCEL DESKTOP

Before you begin entering data to create the budget worksheet, take a few moments to get familiar with the Excel program window and its worksheet environment.

The Excel program window contains elements that you find on other program windows in the Windows environment: program and file window Restore buttons, Minimize buttons, and Control-menu box buttons. From the top down, the Excel program window also displays its Title bar, Menu bar, Standard and Formatting toolbars, Formula bar, the first several rows and columns of a worksheet, and its Status bar. These elements are shown in Figure 1-7.

The Title bar displays the name of the program alongside the name of the active workbook file. **Workbook files** store the data you create using the Excel program. Because the opening workbook contains no data yet, the Title bar on the opening screen displays "Book1" to the right of the program's name.

The Menu bar immediately below the Title bar shows the names of menus that contain related sets of commands. The Standard and Formatting toolbars below the Menu bar display an extensive set of buttons and other devices you can use to create, format, embellish, print, and

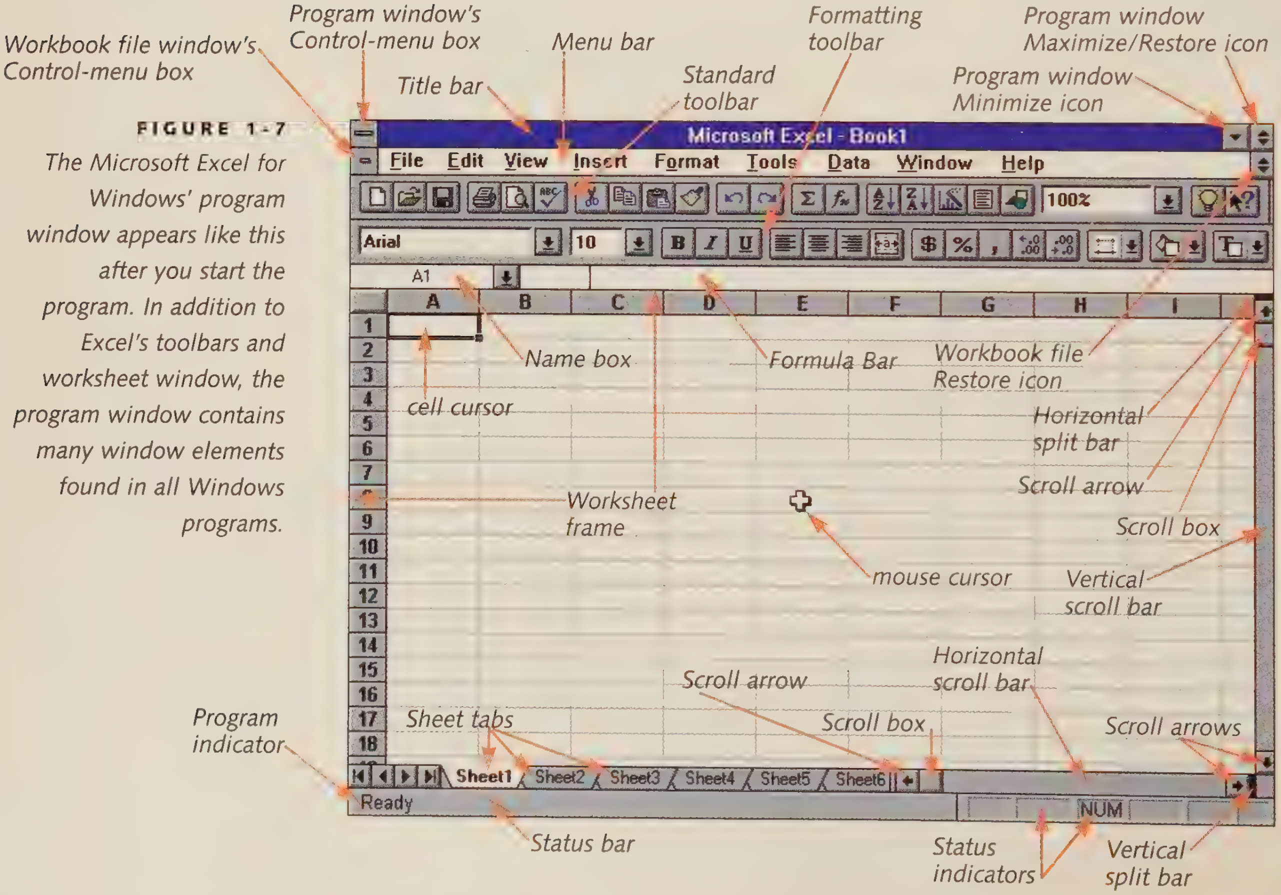


FIGURE 1-7

The Microsoft Excel for Windows' program window appears like this after you start the program. In addition to Excel's toolbars and worksheet window, the program window contains many window elements found in all Windows programs.

save worksheets. The Formula bar is used for building calculations that operate on worksheet data. Except for the Status bar at the bottom of the screen, the rest of the screen area is occupied by a grid, called a worksheet. The worksheet appears in its own window, called the **worksheet window**.

USING THE EXCEL WORKSHEET

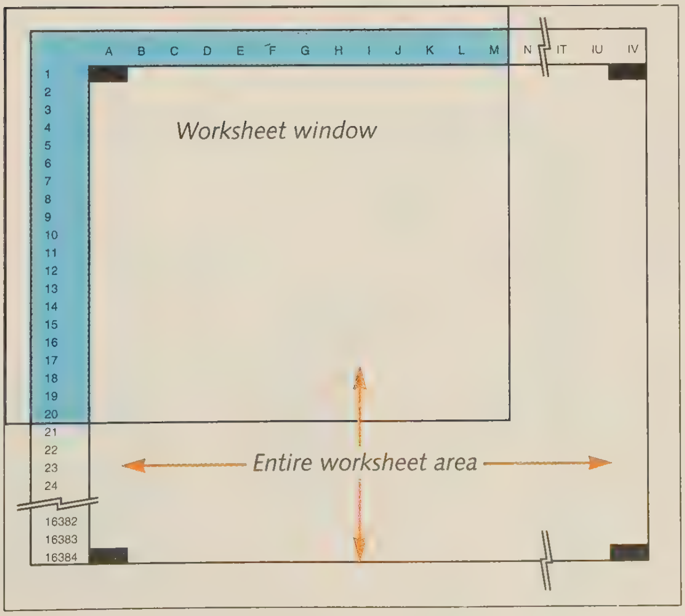
A **worksheet**, also called a **sheet**, is simply a grid for storing and manipulating numeric data. The grid contains vertical **columns** that are labeled with letters and horizontal **rows** that are labeled with numbers. The **worksheet frame** displays the letters along the top and the numbers down the left side of the window.

There are 256 columns (labeled A–IV) and 16,384 rows available to you in a worksheet. Following column Z, columns are labeled with two letters, starting with AA, AB, AC, and so on, to column IV. The columns and rows visible on the opening screen, then, make up only a very small portion of an entire **worksheet area**, as illustrated in Figure 1-8. The number of columns and rows that display in the program window depends on several factors, including the size of the monitor you are using, the number of program elements set for display, and so on.

CELLS: THE BASIC WORKSHEET UNIT

Each intersection of a column and row forms a cell—the basic unit of a worksheet. A **cell** is where you enter and store an item of information. Each cell is identified by its **cell address**, which is formed by the column letter (or letters) and the row number that corresponds to the column and row intersection. So, cell A1 is located where column A and row 1 meet, and cell DJ320 is located where column DJ and row 320 meet. Similarly, cell IV16384 is located where column IV (the very last column) and row

FIGURE 1-8
The worksheet window portion of the Excel program window shows only a very small portion of the entire worksheet area that is available to you.



16384 (the very last row) meet. In the entire worksheet area there are 4,194,304 cells (256 columns × 16,384 rows) available to you, and each cell has a unique cell address.

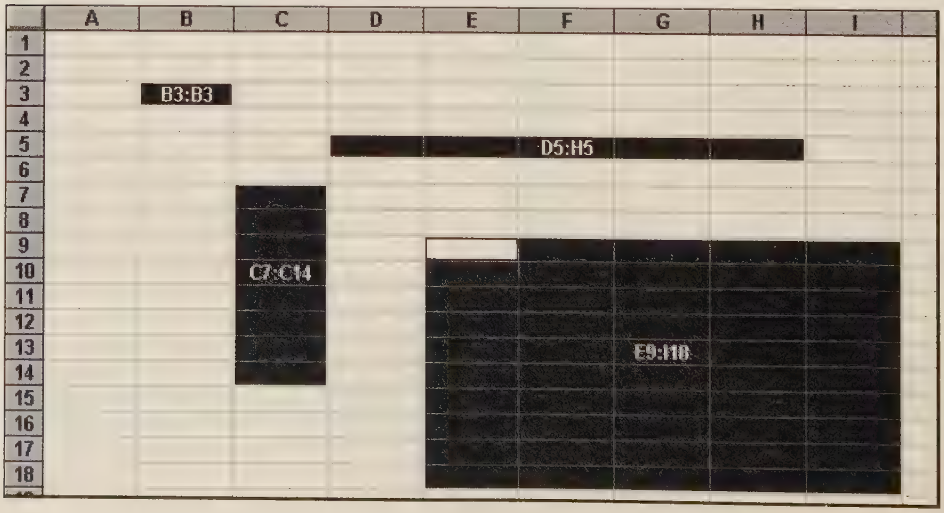
To enter information into a cell, the cell must be active. The **active cell** is the cell where the **cell cursor** is located. There can be only one active cell at a time. When Excel is first loaded, the cell cursor is always on cell A1. As you can see in Figure 1-7, the cell cursor appears as a dark frame, or heavy border, that distinguishes the active cell from all the other visible cells. Notice that you can quickly identify the active cell by glancing at the **Name box** at the left end of the Formula bar. The active cell's address appears in the name box if the Formula bar is turned on.

RANGES: BLOCKS OF WORKSHEET CELLS

Although cell ranges will be discussed in more detail later, it is important to have a basic understanding of them as you begin working with Excel or any spreadsheet program. A **range** is a specific set or group of cells. Just as an individual cell is rectangular, a range is any rectangular group of contiguous cells. A range can be one or more cells in a column, including the entire column (all 16,384 cells); one or more cells in a row, including an entire row (all 256 cells); or any number of cells in multiple columns and/or rows, including the entire worksheet area—all 4 million-plus cells! Four examples of ranges are shown in Figure 1-9.

Like a cell, a range is identified by its **range address.** A range address is composed of the beginning and ending cell addresses separated by a colon (:). For example, C4:E6 is a range address consisting of nine cells: C4, C5, C6, D4, D5, D6, E4, E5, and E6. The beginning and ending cells can be any two cells at diagonally opposite corners of a rectangular range. Generally, these are the cells in the upper-left corner and lower-right corner, respectively. You use range addresses often when working with a spreadsheet program. Although we will discuss this topic in more detail later, for now it is sufficient that you understand that a range is any rectangular group of cells, designated by a unique range address.

FIGURE 1-9
Four examples of ranges are highlighted (selected) in this worksheet window.



READING THE STATUS BAR

The **Status bar** is the single line at the bottom of the screen. When the Excel program window first opens, the Status bar displays the **mode indicator** "Ready" in the lower-left corner. This indicator simply tells you the current operation mode of the program. "Ready" means Excel is ready for you to enter information, select a command, or select a button. This indicator changes all the time to provide you with brief help messages. For instance, if you move the mouse cursor over a pull-down menu name or a button on a toolbar, a message indicating the element's purpose replaces the "Ready" indicator.

The right end of the Status bar displays certain keyboard status indicators. These indicators tell you when certain keyboard or program conditions are active; for instance, the NUM indicator displays every other time you press Num Lock on the keyboard's numeric keypad.

MOVING THE CELL CURSOR AROUND THE WORKSHEET

When working with Excel, you use the mouse to move the cell cursor around the worksheet quickly. To move the cell cursor directly to any visible cell in the worksheet window, simply position the mouse cursor, which looks like a hollow plus sign, over the cell you want to make active, and click the left mouse button. (If your mouse is set up for left-handed use, use the right mouse button.) If you want to move the cell cursor to a cell that is not visible in the worksheet window, you can scroll the worksheet by using the **scroll bars. Scrolling** is the movement of the worksheet within the window. We will discuss scrolling in more detail later.

USING THE KEYBOARD TO MOVE THE CELL CURSOR

To use the keyboard to move the cell cursor from one cell to the next, you can press one of the four arrow keys within the set of cursor movement keys. On older keyboards, these keys are available only on the **numeric keypad.** To use the cursor movement keys on the numeric keypad, you must first be sure to deactivate the numbers by pressing Num Lock. This key is a keyboard toggle key. A **toggle** key turns something on and off. Each time you press Num Lock, the current active status of the numeric keypad alternates between the number keys and the cursor movement keys. If the NUM status indicator is not visible on the Status bar, then you know the cursor movement keys are active.

Newer, or extended, keyboard models have an extra set of cursor movement keys that can be used while the numeric keypad's number keys remain active. Using the numeric keypad to enter numbers is generally more convenient for many spreadsheet program users, especially when there is a significant amount of numeric data to be entered.

USING TWO KEYS IN SEQUENCE

Many software programs, including Excel, require you to press two keys together to execute certain commands. In this book two keys that you must press in this manner appear connected with a plus sign (+), for example, Ctrl+→. If in this book you see two keys connected with a plus sign in a numbered step, do the following:

- Press and hold down the first key.
- Press the second key.
- Release both keys simultaneously.

There are also times when you must press two keys separately, one right after the other. For example, when using Excel, you can move the cell cursor quickly across a range of cells by pressing and releasing End and then pressing an arrow key. This movement is described in Table 1-1, where all cell cursor movement keys are summarized.

TABLE 1-1: CELL CURSOR MOVEMENT KEYS

KEYSTROKE	MOVEMENT
→ *or* ←	One cell right or left
↑ *or* ↓	One cell up or down
Ctrl+Home	To the worksheet's first cell
Home	To the beginning of a row
Ctrl+→ *or* Ctrl+← End → *or* End ←	Right or left to the first cell with data; otherwise, right or left to the last empty cell
Ctrl+↑ *or* Ctrl+↓ End ↑ *or* End ↓	Up or down to the first cell that contains data; otherwise, up or down to the last empty cell
Ctrl+End	To the worksheet's last cell
Page Down *or* Page Up	Down or up one screen depth
Alt+Page Down *or* Alt+Page Up	Right or left one screen width
Scroll Lock *any* arrow key	Worksheet scrolls in selected direction; active cell unchanged

MOVE THE CELL CURSOR

Try the following steps to practice using the mouse and cell cursor movement keys.

1. Click on the vertical scroll bar anywhere below the scroll box.

   The worksheet window scrolls down one screen depth.

2. Click on cell I35.

3. Drag the vertical scroll bar's scroll box all the way to the top.
4. Click on cell A1.
5. Press → once.
6. Press → three times.
7. Press ↓ five times.
8. Press Ctrl+Home.

   The cell cursor returns to cell A1.
9. Press Page Down.
10. Press Page Up.
11. Press Alt+Page Down twice.

    The worksheet window displays columns two windows to the right.
12. Press Alt+Page Up twice.

    The cell cursor should be back in home position (cell A1). If for some reason it is not, press Ctrl+Home.
13. Press Ctrl+→.

    The cell cursor moves to column IV because there is no data between cells A1 and IV1.
14. Press Ctrl+↓.

    The cell cursor moves to row 16384 because there is no data between cells IV1 and IV16384. Cell IV16384 is the last cell in the lower-right corner of the current worksheet.
15. Press →.

    Nothing should appear to happen because you cannot move the cell cursor to the right of column IV.
16. Press Ctrl+Home.

    The cell cursor returns to cell A1.
17. Press F5.

    The Go To dialog box appears.
18. Type **cu469**

    The cell address CU469 appears in the Reference edit field.
19. Press Enter.

    The cell cursor moves to cell CU469.
20. Press Ctrl+Home.

    The cell cursor moves to cell A1.

ENTERING LABELS

Labels provide meaning to the numbers and calculations in a worksheet, and they help you to structure your worksheet data. Use the following procedure to enter a label in a cell:

- Position the cell cursor on a desired cell.
- Type the label text.
- Press Enter, select the Formula bar's Enter button, press a cell cursor movement key, or click on another cell.

When you must enter a series of labels or data, you will likely find it more efficient to press an arrow key after you type the label text. This enters the text in the current cell and then moves the cell cursor to the next cell where you will enter more data.

As soon as you type any character in the active cell, the character appears both in the cell and on the Formula bar. An **insertion bar** also appears in the active cell, indicating where the next character you type will appear. When the insertion bar is in the active cell, you can press Bksp to delete characters to the left, if you need to make a correction before you enter the data. If you decide not to enter the data you've typed in the cell, simply press Esc. Excel returns to ready mode, and the cell remains blank. To store the data in the cell and move the cell cursor to the next cell down in the column, simply press Enter.

USING THE FORMULA BAR

Along with the first character you type, three buttons appear on the Formula bar: the Cancel button, the Enter button, and a Function Wizard button (see Figure 1-10). You can use the Formula bar to edit the text, number, or formula you are putting into the cell. You activate the Formula bar by clicking anywhere on it to transfer the insertion bar from the active cell to the Formula bar.

With the insertion bar on the Formula bar, you can use ← or → to move the insertion bar to any character in the entry. You can also use other editing keys, such as Del and Bksp to modify the entry. Once the entry appears on the Formula bar as you want it to appear in the cell, you can select the Enter button to store the entry in the active cell. The cell

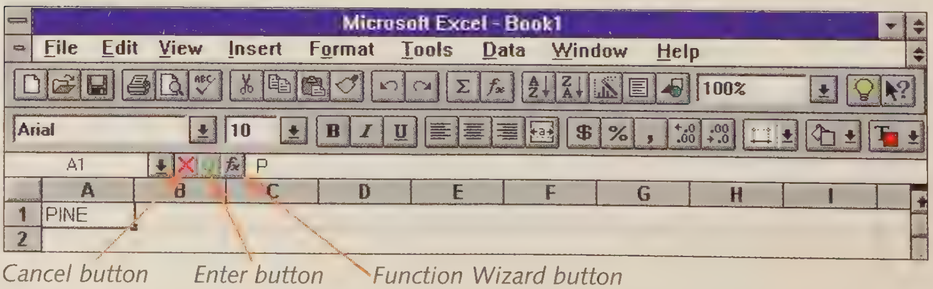


FIGURE 1-10

When you begin typing an entry in the active cell, the Formula bar appears with a Cancel, Enter, and a Function Wizard button.

containing the entry remains active when you select the Formula bar's Enter button. If you decide not to enter the data into the worksheet, you can select the Formula bar's Cancel button. This has the same effect as pressing Esc.

CREATE YOUR OWN WORKSHEET

Begin building the budget worksheet as outlined in the following steps. If you make a typing mistake before you store data in a cell, you can press Bksp to delete the characters you typed by mistake. Then type the correct characters. Or, you can activate the Formula bar and make any corrections there.

1. Make sure the cell cursor is on cell A1.
2. Press Caps Lock if the CAPS status indicator does not appear on the status line.
3. Type **PINE CANYON LEARNING CENTERS**

   The label's text displays on the Formula bar.

The mode indicator displays "Enter" because as soon as you begin typing, Excel assumes you are entering data. At this point, you can press Bksp to delete any unwanted characters and then replace them with the characters you want to enter.

4. Select the Formula bar's Enter button.

   Depending on your monitor, the label displays across cells A1, B1, C1, and possibly part of cell D1.

Labels display across as many blank cells as necessary to the right of the current cell. However, the label only exists in one cell. In your worksheet, row 1 cells to the right of column A are still blank cells, while cell A1 contains the label.

5. Press →.

   The cell cursor moves to cell B1.

   Look at the Formula bar. There is nothing in cell B1, even though it looks as if there is text in the cell.

6. Press ←.

   The cell cursor moves to cell A1. Because cell A1 is again the active cell, the entire label displays on the Formula bar.

7. Press ↓.
8. Press Caps Lock to turn off uppercase mode.
9. Type **Quarterly Budget - Third Quarter, 1996**
10. Press ↓ three times.

TIP *After typing an entry, you can press a cell cursor movement key to both store the entry and move to the next cell in which you want to enter data. Excel is set up, by default, to move the cell cursor down to the next cell in the active column when you press* Enter.

11. Press Caps Lock and type **REVENUE**
12. Press Enter and press Caps Lock.

    The label is stored, and uppercase mode is turned off.

To indent the next series of labels, you will simply begin each label with two space characters.

13. Press Spacebar twice, type **Sales**, and press ↓.
14. Press Spacebar twice, type **Services**, and press ↓.
15. Press Spacebar twice, type **Misc.**, and press ↓.
16. Type **Total:** and press ↓ twice.

    Your worksheet should look similar to Figure 1-11.

In the next step you will enter the rest of the column A labels for the budget worksheet.

17. Enter the labels listed for the following cells (type the labels shown in boldface, not the cell addresses):

TIP *Begin the labels in the range A12:A16 with two spaces to indent them as shown in Figure 1-12.*

A11: **EXPENSES**

A12: **Materials**

A13: **Maintenance**

A14: **Insurance**

A15: **Salaries**

A16: **Misc.**

A17: **Total:**

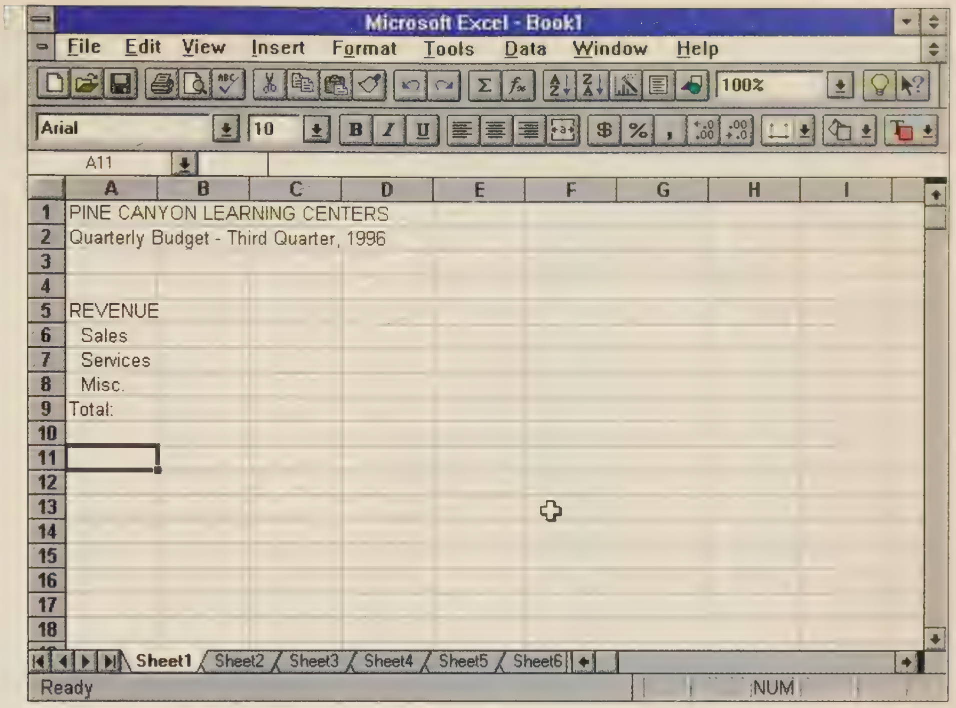
18. Make sure the cell cursor is on cell A19.
19. Type **NET INCOME:** and press Enter.

    Your worksheet should now look very similar to Figure 1-12.

Now you will enter labels that make up the budget's column headings.

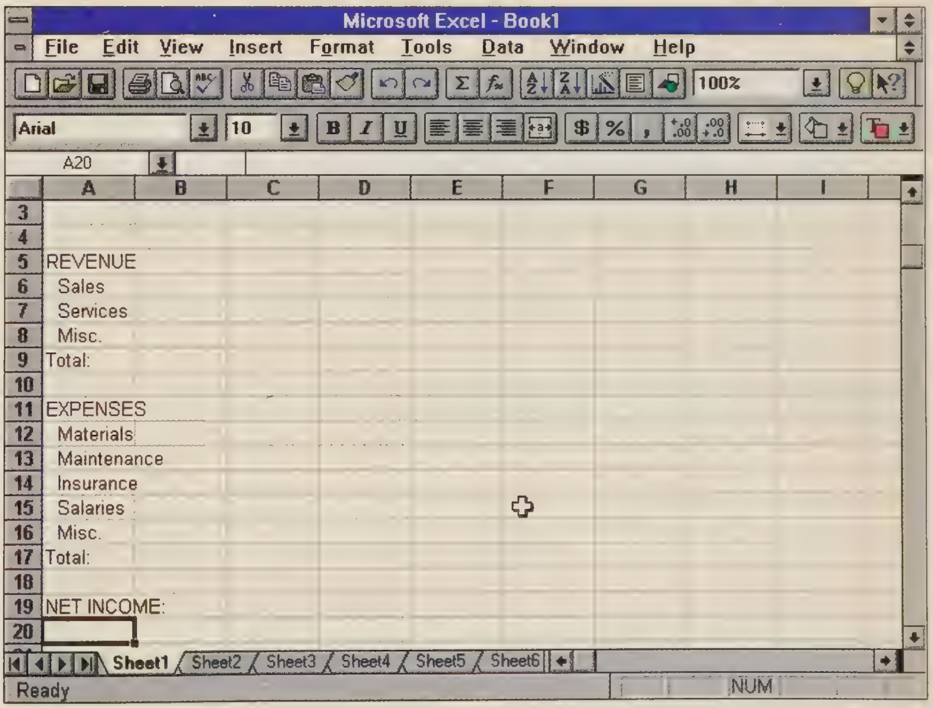
20. Select cell B4.
21. Press Caps Lock if the CAPS indicator is not visible on the status line.
22. Type **JULY** and press →.
23. Type **AUGUST** and press →.

FIGURE 1-11
Your worksheet should look like this after you enter the column of revenue labels.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ %
A11
A B C D E F G H I
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM

	A
1	PINE CANYON LEARNING CENTERS
2	Quarterly Budget - Third Quarter, 1996
3	
4	
5	REVENUE
6	Sales
7	Services
8	Misc.
9	Total:

FIGURE 1-12
Your worksheet should look like this after you enter the column of expense labels.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ %
A20
A B C D E F G H I
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM

	A
5	REVENUE
6	Sales
7	Services
8	Misc.
9	Total:
10	
11	EXPENSES
12	Materials
13	Maintenance
14	Insurance
15	Salaries
16	Misc.
17	Total:
18	
19	NET INCOME:

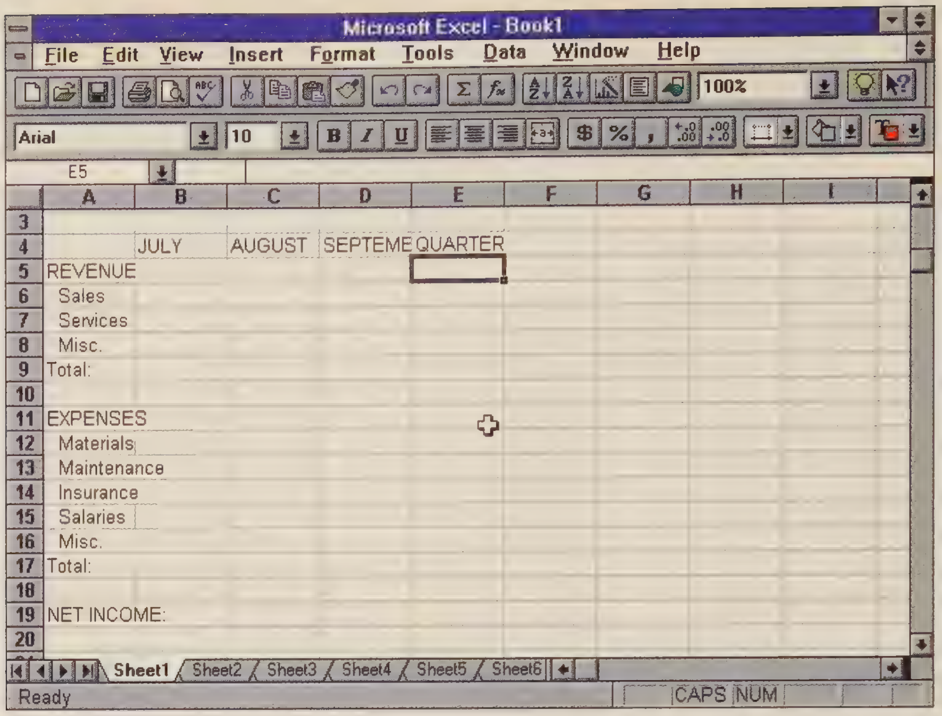
24. Type **SEPTEMBER** and press →.
25. Type **QUARTER** and press Enter.

    Your worksheet should now look very similar to Figure 1-13.

26. Press Caps Lock to turn off uppercase mode.

FIGURE 1-13

Your worksheet should look like this after you enter the budget's column labels.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
E5
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
CAPS NUM

	A	B	C	D	E	F	G	H	I
3									
4		JULY	AUGUST	SEPTEME	QUARTER				
5	REVENUE								
6	Sales								
7	Services								
8	Misc.								
9	Total:								
10									
11	EXPENSES								
12	Materials								
13	Maintenance								
14	Insurance								
15	Salaries								
16	Misc.								
17	Total:								
18									
19	NET INCOME:								
20									

Look at the display of the label "SEPTEMBER" in cell D4. Depending on your monitor's display, one or more characters in the label may be cut off. A label wider than the width of a column spills over into blank cells to the right. However, if there is data in the next cell to the right, the label appears to be shortened. This is called **truncation**. Even though a label's display appears truncated within its cell, all of the label's characters remain stored in the cell. If you move the cell cursor to cell D4, you will see that the entire label displays on the Formula bar. In the next lesson you will learn how to make your columns wider so that labels do not display truncated.

ENTERING VALUES

Enter values into a worksheet in the same manner that you enter labels, as follows:

- Move the cell cursor to a cell.
- Type the numbers for the value.
- Press Enter, select the Formula bar's Enter button, press a cell cursor movement key, or click on another cell.

When you enter numbers, you can use either the numeric keypad or the number keys across the top of the keyboard above the alphabet keys.

If you are using an older keyboard, you may find it more comfortable using the number keys above the alphabet keys. This allows you to use the direction keys on the numeric keypad to move the cell cursor.

Values display right-aligned in their cells after you enter the data. When you enter values, you can type extra characters like dollar signs and comma separators, if you want values to appear as currency or with comma separators. For now, however, just enter numbers for values. You will learn how to format values in Lesson 2.

ENTER VALUES

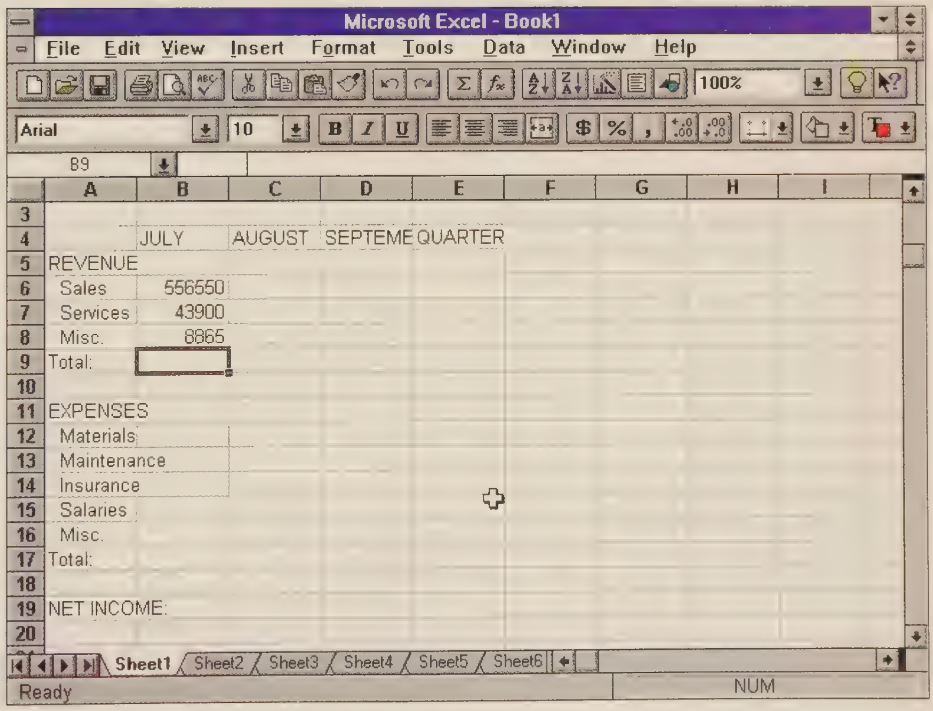
Continue building the budget worksheet by entering projected revenue values for July.

1. Select cell B6.
2. Type 556550 and press ↓.
3. Type 43900 and press ↓.
4. Type 8865 and press Enter.

Your worksheet should now look similar to Figure 1-14.

FIGURE 1-14

Your worksheet should look like this after you enter the budget's revenue values for July.



	A	B	C	D	E
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550			
7	Services	43900			
8	Misc.	8865			
9	Total:				
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				
17	Total:				
18					
19	NET INCOME:				
20					

BUILDING FORMULAS

At its basic level, the worksheet's ability to do simple and complex calculations is what makes it such a valuable tool. A **formula** is a calculation that operates on worksheet data. When you enter a formula into a cell, the spreadsheet program performs three tasks:

- It stores the formula you create, assigning it to the specific cell in which you entered the formula.
- It performs the calculation prescribed in the formula.
- In the worksheet window, it displays the result in the cell.

In a sense, you can think of each cell as operating like the liquid crystal display (LCD) on a hand-held calculator. When you punch in numbers and arithmetic operators on a calculator, the calculator performs the calculation and displays the result on its LCD. This is basically how spreadsheet software works. However, there is one important difference. Formulas operate on values that are stored in other worksheet cells, and the worksheet has the ability to recalculate formulas instantly and automatically when you make adjustments to values referenced in the formulas.

You can build a formula by entering numbers and operators in much the same way you do with a calculator. (Indeed, there are times when this is appropriate.) However, you can better capitalize on the spreadsheet's power by entering cell addresses, also called cell references, into formulas. They are **cell references** because the cell address "references" or refers to the exact location of a value, another formula, or, in some cases, text on which you want the formula in the active cell to operate.

Take the formula 2+2, for example. If you store the number 2 in cells C8 and D8, you can obtain a sum for these two values by entering the formula =C8+D8 in cell E8. (The equal sign will be explained shortly.) This formula tells Excel to add the value in cell C8 to the value in cell D8 and display the result, 4, in cell E8. Now suppose you later change the value in cell C8 to 3. When you do this, the formula in cell E8 recalculates automatically and displays the sum 5. As the formula instructs, Excel sums the values in cells C8 and D8—whatever those values may be. Alternatively, if you enter the formula 2+2 in cell E8, it always displays the sum 4.

USING OPERATORS IN FORMULAS

Table 1-2 shows the mathematical operators recognized by Excel. In any formula, Excel performs calculations in a particular order. This is called the **operator order of precedence**. You need to consider this operator ordering system when you build formulas because it is often possible to obtain two or more results from any given formula. A particular result depends on the order in which you perform the calculations. For example, consider the following mathematical formula:

$$2 \times 3 - 2 \div 4 + 6$$

Depending on the order in which you perform each operation specified by each operator, this formula can return the following results: 17, 11.5, 11, 7, 6.5, 5.8, 0.4, 0.2, –0.5, or –7. If you enter this formula in a cell, Excel and other spreadsheets display the result 11.5 because the operator order of precedence dictates that the program perform multiplication and division first, from left to right, before addition and subtraction.

You can control Excel's operator order of precedence by inserting parentheses into the calculation. The program performs any calculation within parentheses first—in precedence order—and then performs the remaining calculations outside the parentheses—also in precedence order. You can also embed, or nest, a set of parentheses within a set of parentheses; Excel will always perform the calculation in the innermost set of parentheses first.

TABLE 1-2: MATHEMATICAL OPERATORS' ORDER OF PRECEDENCE

OPERATOR	OPERATION	PRECEDENCE ORDER
– or +	Positive or negative value	1
^	Exponentiation (as in 5^2=25)	2
* and /	Multiplication and division	3
+ and –	Addition and subtraction	4

There is one other important consideration regarding formulas in an Excel worksheet. Always begin a formula with the equal sign (=) operator. If you begin a formula by entering a cell address, for example B6, Excel assumes you are entering a label, which is exactly how the formula will be entered. It will appear in the cell, and the program will not perform the calculation.

CREATE A FORMULA

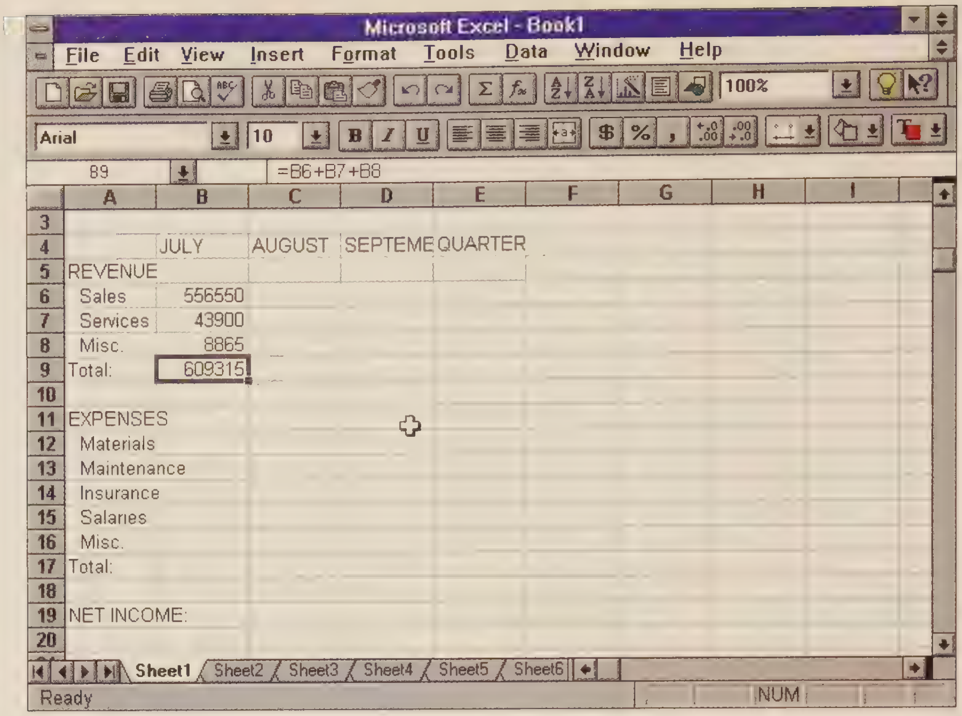
Go ahead and create a formula that calculates a revenue total for July.

1. Select cell B9.
2. Type =
3. Type **b6+b7+b8**
4. Select the Formula bar's Enter button.

   The formula is entered and stored, and its result appears in the active cell, as shown in Figure 1-15.

POINTING TO CELLS WHILE BUILDING FORMULAS

Now take a look at another formula-building technique called pointing. **Pointing** means moving the cell cursor to a cell that you want referenced in the formula. When you point to a cell, Excel places the cell address in the formula on the Formula bar automatically and in the cell temporarily. The


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM

B9 =B6+B7+B8

	A	B	C	D	E
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550			
7	Services	43900			
8	Misc.	8865			
9	Total:	609315			
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				
17	Total:				
18					
19	NET INCOME:				
20					

FIGURE 1-15

The formula appears on the Formula bar, and its result appears in the current cell.

pointing method for entering cell references in formulas is more accurate than typing them. Typing increases your chances of making mistakes (typos), especially when formulas are long and complex. However, when you point to a value or formula that you want factored into the formula you're building, the cell reference is always accurate. To enter cell references in formulas by pointing to cells, you follow this procedure:

- Type the formula's equal sign operator (=) or an opening parenthesis, if appropriate.
- Use the mouse or press one or more cell cursor movement keys to move the cell cursor. This causes Excel to display "Point" on the Status bar, and a dashed box appears around the cell to which you are pointing. In point mode you can move the cell cursor to any cell that contains a value (or another formula) that you want included in the formula.
- Type an appropriate operator. The Status bar indicator switches back to "Enter."
- Move the cell cursor to a cell that contains the next value or formula you want included in the formula you're building.
- Type the next appropriate operator.
- Continue to build the rest of the formula by pointing to cells and typing operators or other values, as necessary.
- Press Enter, select the Formula bar's Enter button, or select another cell with the mouse or a cell cursor movement key to enter the formula in the current cell.

CREATE A FORMULA

To come up with projected revenues for August and September, suppose you assume, for practical reasons, that revenues will increase each month by 2.5 percent. You need to create formulas in the August column that will add a 2.5 percent increase to each July revenue item. Instead of typing the first formula, use the pointing method to enter another formula in your budget worksheet.

1. Select cell C6.
2. Type =
3. Press ←.

   The cell cursor moves to cell B6. Notice that Excel has inserted the cell address (B6) to the right of the operator (=) both in the cell and on the Formula bar.

Now the program switches to point mode because you have pointed to the Sales revenue for July. If you needed to, you could continue to move the cell cursor to any other cell while Excel is in point mode.

4. Type +

   The cell cursor returns to cell C6, the cell in which you are entering the formula (the active cell).

5. Press ←.
6. Type ***2.5%**
7. Press Enter.

   The result 57046.38 appears in cell C6.

The formula stores in cell C6, and the result reflects an August sales revenue figure that is a 2.5 percent increase over July sales. You could enter similar formulas for the other revenue items, but this is a good time for you to learn how to save your work. Go on to the next section for a discussion of how to save a workbook file for the first time.

SAVING A WORKBOOK FILE

When you are working with Excel, all the work you see on the screen stores temporarily in **random-access memory (RAM)** until you save it to disk. Get into the habit of saving your worksheets often, in case some unforeseen event, such as a sudden power failure, should occur and shut down your system. You save worksheets in files that Excel calls workbook files.

SELECTING COMMANDS

Because you will soon be saving your budget worksheet to disk, this will be the first time you use Excel's Menu bar. As you work with spreadsheet software, you will need to select commands often from Excel's set of **pull-down menus**. The menu names on the Menu bar provide you access to separate menus or lists of commands. When you select a menu by clicking on its name, the name appears to drop down from the Menu bar, as shown in Figure 1-16.

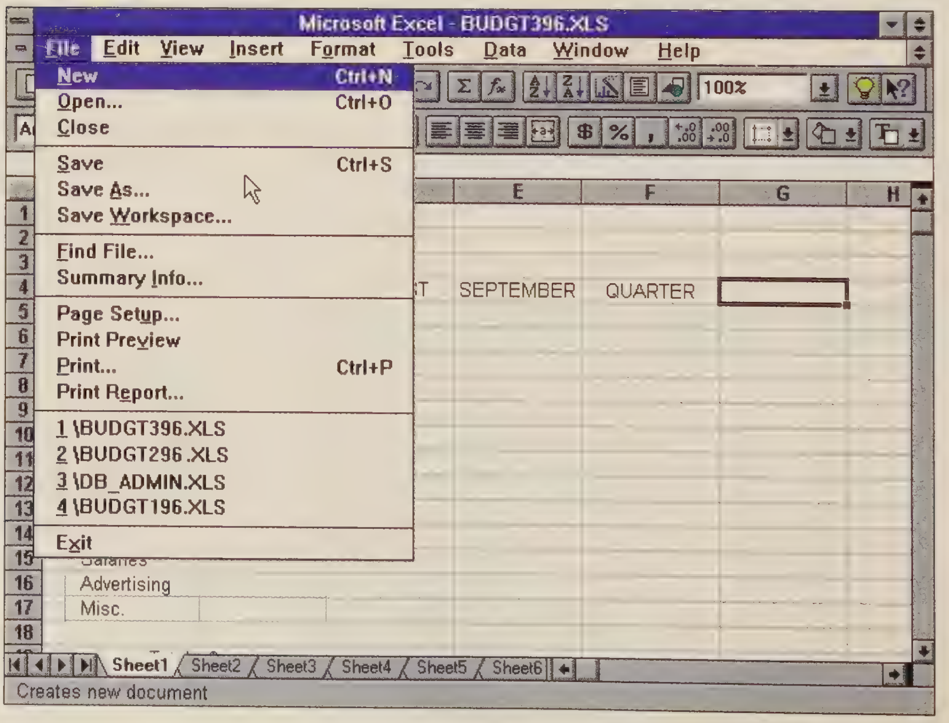
With the menu displayed, you can then select any available command by clicking on the command you want. In some situations, certain commands may not be available. These commands appear dimmed on the menu and you cannot select them.

Menus in the Windows environment are referred to as pull-down menus because it is possible to use the dragging technique to select commands in one motion. When you use this technique, you press and hold the left mouse button to "pull" the menu down (open it) and then drag the highlight down to the command you want to select. When you release the mouse button, the command is selected and it carries out its assigned task.

The procedure for selecting the Save As command to save a workbook file for the first time is as follows:

- Press Ctrl+Home to move the cell cursor to cell A1, the beginning of the active worksheet.
- Select the File pull-down menu, and then select the Save As command (or click on the Save button).
- Type a name of eight characters or less for the workbook file.
- If necessary, select the drive and/or directory where you want to store the file.
- Select the OK command button, or press Enter.

FIGURE 1-16
Excel's pull-down menus appear to drop down from the Menu bar when you select them. Each menu displays a list of commands.



Creates new document

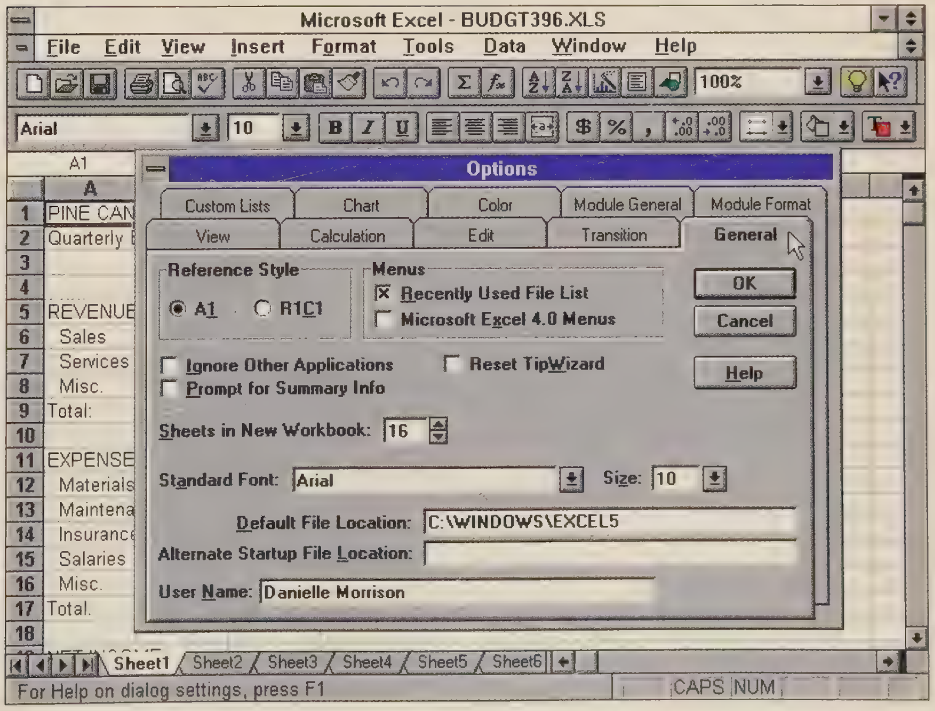
TIP *The first time you save a workbook file, the Save As dialog box appears whether you select the Save As command or the Save command on the File menu. Once data in a worksheet has been saved in a workbook file, the Save command saves the data without displaying this dialog box.*

CHANGING THE WORKING DIRECTORY

You can store your files in a directory on your hard disk or on a floppy disk. Unless a default file location has been set, Excel's Save As dialog box displays the drive and directory that contain the program files. This is the current **working directory** the program is using, which means that the workbook file you are saving will be stored in that location, unless you select another location.

You can, however, set up a **default file location** that tells Excel where you want to store the workbook files automatically when you save them for the first time. This saves you some time when you save files because you do not have to select a location each time you save a new workbook file. The procedure for changing the default file location is as follows:

- Select the Tools pull-down menu.
- Select the Options command. The Options dialog box appears.
- If necessary, click on the tab labeled "General." A set of general options appears, as shown in Figure 1-17.
- Type the entire path, including the drive letter, for the location you want to be the working directory.
- Select the OK command button, or press Enter.



Reference Style: ● A1 ○ R1C1

Menus: ☒ Recently Used File List ☐ Microsoft Excel 4.0 Menus

☐ Ignore Other Applications ☐ Reset TipWizard

☐ Prompt for Summary Info

Sheets in New Workbook: 16

Standard Font: Arial Size: 10

Default File Location: C:\WINDOWS\EXCEL5

Alternate Startup File Location:

User Name: Danielle Morrison

For Help on dialog settings, press F1

FIGURE 1-17
The General set of options appears in the Options dialog box when you click on its tab. Dialog boxes contain a variety of option types. Use these settings to modify general working environment settings, such as changing the current working directory.

USING DIALOG BOX OPTIONS

Many commands in Excel and other Windows programs include ellipses (...), which are not included in this book's text references for better legibility. The on-screen ellipses show you that when you select the command, a dialog box will appear. A **dialog box** contains one or more sets of options that you can select to provide Excel with information that is essential to complete the command's assigned, or programmed, task.

The Options dialog box shown in Figure 1-17 illustrates many of the different option types you find in Excel dialog boxes. Many dialog boxes display tabs, which resemble the index tabs you find in loose-leaf notebooks. **Tabs** organize a dialog box's options into related sets. Each set of options contains various types, including check boxes, radio buttons, scroll lists, drop-down lists, edit fields, and command buttons. These option types are summarized in Table 1-3.

USING YOUR STUDENT DATA DISK

You are about to save your budget worksheet in a workbook file for the first time to a floppy disk. This disk can be either a formatted, blank disk that you will use as a work disk, or a Student Data Disk that was supplied to you by your instructor. If you have not obtained a Student Data Disk, see your instructor. This disk contains files you will need for the application projects that appear at the end of lessons in this book. We advise that you make a backup copy of your Student Data Disk and put the original away for safekeeping.

TABLE 1-3: DIALOG BOX OPTION TYPES

OPTION TYPE	DESCRIPTION
Check box	Toggles a condition on or off. *X* appears in the labeled check box when the condition is on. Appears alone or grouped with other check boxes, which may also be turned on.
Radio button	Toggles a condition on or off. A dot (•) appears in the labeled button when the condition is on. Appears grouped with other radio buttons, only one of which can be turned on at a time.
Scroll list	List of items that appears with a vertical scroll bar. Only one item can be selected at a time.
Drop-down list	A labeled text box, or edit field, that appears with a drop-down list arrow. Additional items in the list appear when the drop-down list arrow is selected. Only one item can be selected at a time.
Edit field (or text box)	A labeled box in which the current condition can be highlighted and replaced, or edited.
Command button	Labeled buttons that run commands, cancel the operations, or display other dialog boxes.

SAVE THE BUDGET WORKBOOK FILE

Because you will save your budget worksheet to a floppy disk, you will first change the working directory before you save the file.

1. Insert a properly formatted disk into drive A (or B).
2. Select the Tools pull-down menu.
3. Select the Options command.
4. Select the General tab.

   A set of General options becomes active in the Options dialog box.

5. Highlight the current entry in the edit field to the right of the Default File Location option.
6. Type **a:** (or **b:** if your disk is in that drive).
7. Click on the OK command button.

   The program is now set to save files on the floppy disk in drive A (or B).

   Now go ahead and save your budget worksheet file.

8. Press Ctrl+Home.

   The cell cursor moves to cell A1.

It's a good idea to move the cell cursor to cell A1 before you save the worksheet file. The current cell cursor location is saved with the workbook file. So if you always move the cell cursor there before saving, it will always be in the home position when you open the file later.

9. Select the File pull-down menu.
10. Select the Save As command.

    The Save As dialog box appears. Notice that the working directory you just set is now the default file location.

11. Type **budgt396**

Even though DOS-based software allows you to use no more than eight characters for file names, it is good practice to make the names as meaningful to you as possible. This will give you a rough idea about what the file contains when you are searching through a directory listing. The file name BUDGT396 combines an abbreviation for the word "budget" with a three-digit code for the third quarter in 1996.

12. Click the OK command button.

    The file is saved on the disk in drive A. Excel automatically attaches the file name extension XLS.

TIP *A Summary Info dialog box may appear after you select the OK command button. If so, you may enter summary information about your budget workbook file, or you can skip it by clicking on the OK command button.*

DISPLAYING HELP INFORMATION

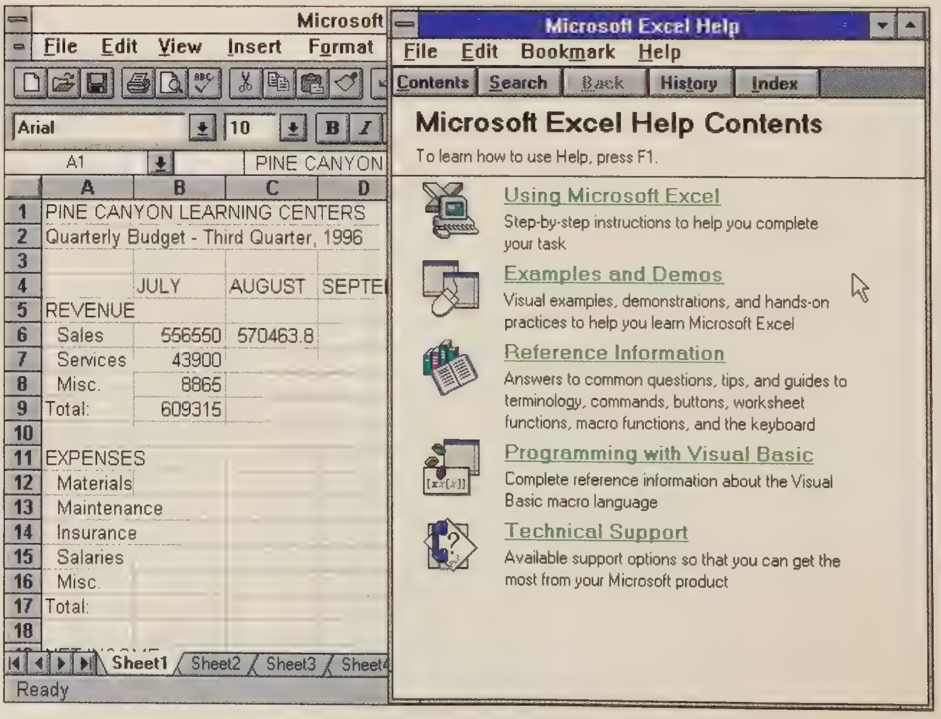
When using any software package, most users invariably need to look up **help** information. This information can help you to recall how to use a certain command; to become familiar with a button, screen element, or operation you don't ordinarily use; or to understand the meaning of an error message the program is displaying. When using Excel, you might even encounter situations where you need to consult the user's manual that comes with the software. Most of the time, however, you can use Excel's extensive Help feature.

There are three ways to use Excel's Help. You can (1) activate the Help window and choose a topic from the Excel Help contents or index; (2) go right to information about the command or procedure you are using currently; or (3) select a procedure that Excel can show you how to complete by displaying an on-screen demonstration. Help information about the command or procedure you are currently using is called **context-specific help**.

BROWSING THE HELP CONTENTS

The Contents command on the Help pull-down menu displays the major categories of Excel's Help system shown in Figure 1-18. You can also press F1 at any time to display the help contents without using the Help menu. To select a category, click on an underlined topic. These topics branch to other lists of topics that you can select to find the information you want. Notice that the Help window contains its own Menu bar, which includes another Help pull-down menu. This allows you to get information about using the Help feature.

FIGURE 1-18
The Microsoft Excel Help Contents presents several major categories from which you can branch to help information on specific topics.


Microsoft
File Edit View Insert Format
Arial
10
B I
A1
PINE CANYON
Sheet1 Sheet2 Sheet3 Sheet4
Ready
Microsoft Excel Help
File Edit Bookmark Help
Contents Search Back History Index

	A	B	C	D
1	PINE CANYON LEARNING CENTERS			
2	Quarterly Budget - Third Quarter, 1996			
3				
4		JULY	AUGUST	SEPTE
5	REVENUE			
6	Sales	556550	570463.8	
7	Services	43900		
8	Misc.	8865		
9	Total:	609315		
10				
11	EXPENSES			
12	Materials			
13	Maintenance			
14	Insurance			
15	Salaries			
16	Misc.			
17	Total:			
18				

Microsoft Excel Help Contents

To learn how to use Help, press F1.

Using Microsoft Excel
Step-by-step instructions to help you complete your task

Examples and Demos
Visual examples, demonstrations, and hands-on practices to help you learn Microsoft Excel

Reference Information
Answers to common questions, tips, and guides to terminology, commands, buttons, worksheet functions, macro functions, and the keyboard

Programming with Visual Basic
Complete reference information about the Visual Basic macro language

Technical Support
Available support options so that you can get the most from your Microsoft product

USING THE HELP WINDOW BUTTONS

Notice also that there is a set of buttons near the top of the Help window. The Contents button always brings you back to the Contents list you see in Figure 1-18, no matter where you are in the Help system. The Search button displays the Search dialog box. In this dialog box you can either type a word, or you can select a topic to search for in the list box. Then click on the Show Topics button to see a list of related topics. To see information on one of the related topics, highlight it, if necessary, and then click on the Go To button.

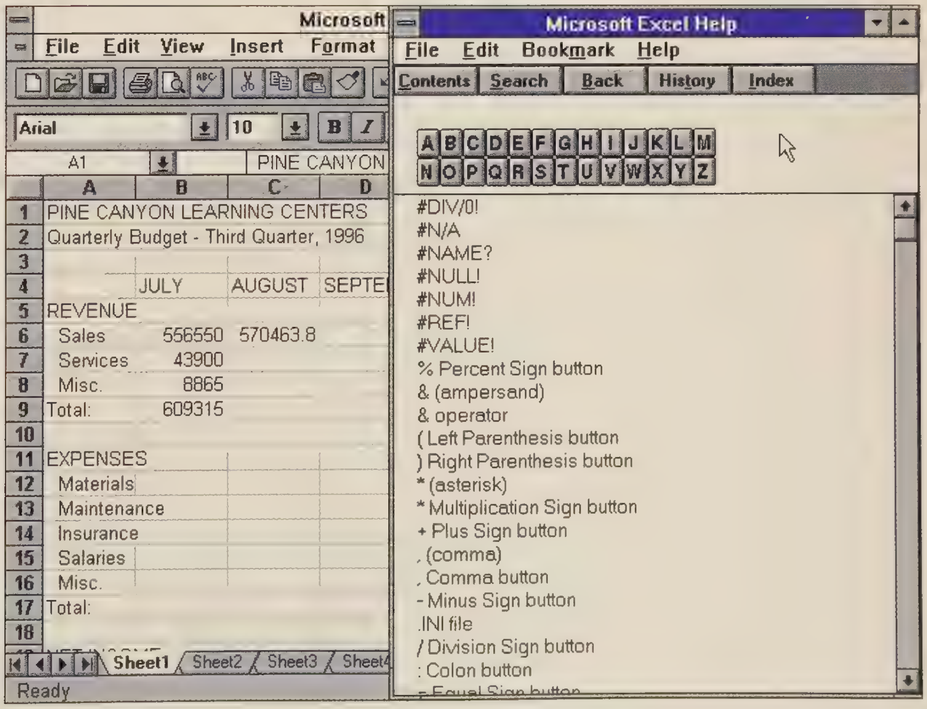
The Back button in the Help window takes you back to the information that you viewed before the information that appears currently. Each time you click on this button, the next prior window of information you viewed appears; when you reach the very first window of information, the Back button becomes inactive. Alternatively, the History button displays a window that lists all the Help topics you have viewed in the current work session. To go back to any prior topic, simply double-click on the topic. The Index button displays the beginning of the extensive Excel Help index of topics.

SELECTING A TOPIC FROM THE HELP INDEX

In addition to selecting the Index button in the Help window, you can access the help index directly from the active worksheet by selecting the Index command on the Help pull-down menu. Either way, the beginning of the index list shown in Figure 1-19 appears. Notice that, along with the menu and button bars, there is a set of buttons labeled A through Z.

FIGURE 1-19

The Excel Help index appears when you either select the Index command from the Help pull-down menu or click on the Index button in the Help window.


Microsoft
File Edit View Insert Format
Arial
10
B I
A1
PINE CANYON
Microsoft Excel Help
File Edit Bookmark Help
Contents Search Back History Index
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
Sheet1 Sheet2 Sheet3 Sheet4
Ready

	A	B	C	D
1	PINE CANYON LEARNING CENTERS			
2	Quarterly Budget - Third Quarter, 1996			
3				
4		JULY	AUGUST	SEPTE
5	REVENUE			
6	Sales	556550	570463.8	
7	Services	43900		
8	Misc.	8865		
9	Total:	609315		
10				
11	EXPENSES			
12	Materials			
13	Maintenance			
14	Insurance			
15	Salaries			
16	Misc.			
17	Total:			
18				

#DIV/0!
#N/A
#NAME?
#NULL!
#NUM!
#REF!
#VALUE!
% Percent Sign button
& (ampersand)
& operator
(Left Parenthesis button
) Right Parenthesis button
* (asterisk)
* Multiplication Sign button
+ Plus Sign button
, (comma)
, Comma button
- Minus Sign button
.INI file
/ Division Sign button
: Colon button

You can use the vertical scroll bar on the right edge of the window to scroll through portions of the index list. Because the list of indexed topics is quite extensive, you can click on an alphabet key to move directly to the portion of the list that contains topics beginning with that letter. For example, if you want to look up information about printing worksheet data, begin by clicking the button labeled "P." This displays the first portion of topics beginning with the letter *p*. Then use the vertical scroll bar to scroll the list until you see the specific print topic for which you are looking.

GETTING CONTEXT-SPECIFIC HELP

Excel provides several avenues for getting help information on commands, buttons, and specific screen areas. As we mentioned earlier, many commands on Excel's pull-down menus are followed by ellipses (...). This means a dialog box appears over the current worksheet when you select such a command, and just about every dialog box contains a Help button. When you click on the Help button in a dialog box, the Help window appears with information on the options that are available to you in that particular dialog box.

What if you need to look up information about a command that does not display a dialog box, though? Excel allows you to do this with the Help button on the extreme right end of the Standard toolbar. When you select this button, the mouse cursor changes to an arrow beside a question mark. This "help" mouse cursor is temporary; you use it to view context-specific information on a command, button, or other on-screen item. To get context-specific help on commands that don't provide a dialog box, display the appropriate pull-down menu, and click on the command (for example, the Save command). The context-specific information appears in the Help window.

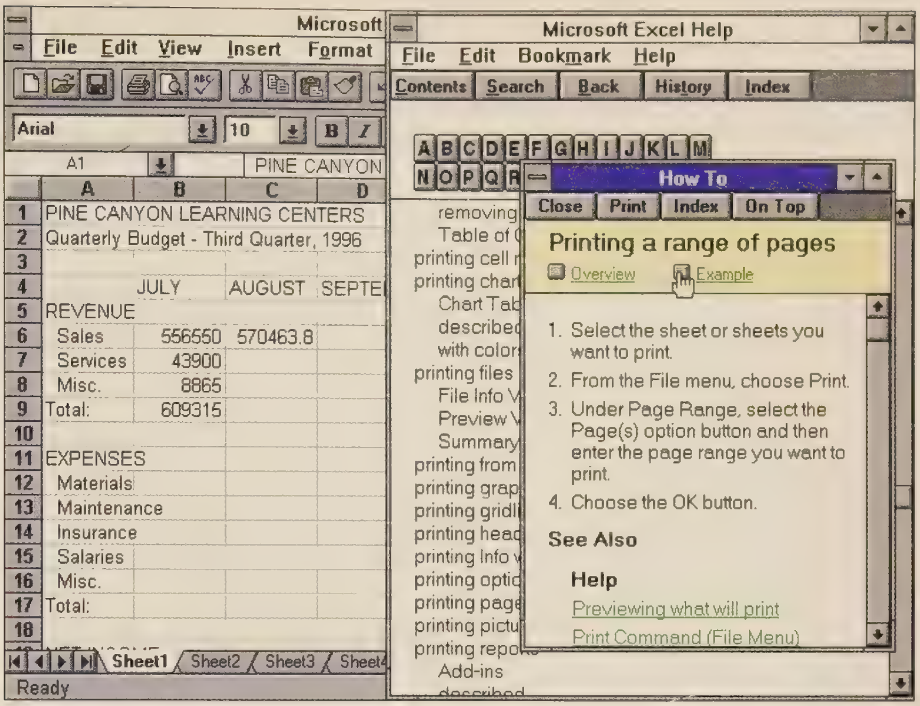
You can also use this "help" mouse cursor to look up information on any button or element that appears in the Excel program window. Simply place the "help" mouse cursor over the item, and click the mouse button. This causes the Help window to appear with specific information about the button or screen element. If you click on a general screen region, the Help window displays a list of screen element topics from which you can select one to view relevant information.

TIP *You can press* F1 *to display context-specific help at any time when a menu or dialog box is displayed.*

NAVIGATING THE HELP WINDOW

When the Help window is active, the mouse cursor changes to a hand with an extended index finger when you place it over a selectable help topic. Selectable topics appear underlined. Clicking on these items moves you directly to information on the topic. Many topics are linked to other topics. In some cases, a How To window appears with a list of numbered procedures to carry out a task (see Figure 1-20). Depending on the topic, the How To window may also include a button labeled "Example." When

FIGURE 1-20
Help's How To window presents detailed, numbered procedures for selected tasks. Some topics provide a button that lets you view a demonstration screen from the Microsoft CBT files.



	A	B	C	D
1	PINE CANYON LEARNING CENTERS			
2	Quarterly Budget - Third Quarter, 1996			
3				
4		JULY	AUGUST	SEPTE
5	REVENUE			
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9	Total:	609315		
10				
11	EXPENSES			
12	Materials			
13	Maintenance			
14	Insurance			
15	Salaries			
16	Misc.			
17	Total:			
18				

Printing a range of pages
Overview Example

1. Select the sheet or sheets you want to print.
2. From the File menu, choose Print.
3. Under Page Range, select the Page(s) option button and then enter the page range you want to print.
4. Choose the OK button.

See Also

Help
Previewing what will print
Print Command (File Menu)

you click on the Example button, a Microsoft CBT screen appears with a graphic example of the process. CBT stands for *computer-based training.* Click the Close button that appears on the CBT screen, when you are ready to return to Help or your worksheet. You can also access the Microsoft Excel CBT system by selecting the Examples and Demos command on the Help pull-down menu.

EXITING HELP

You can exit the Help window in the same way you close any application window in the Windows environment. This means you can either double-click on the window's Control-menu box, select the Close command on the control menu (or press Alt+F4), or select the Exit command on the Help window's File pull-down menu.

ACCESS HELP INFORMATION

Take this opportunity to acquaint yourself with Excel's Help feature.

1. Select the Help pull-down menu.
2. Select the Contents command.

   The Excel Help window appears with the contents list.

3. Select the Index command button.

   The Excel help index appears.

4. Move the mouse cursor over the S button.

Notice that the mouse cursor changes to a hand with an extended index finger.

5. Select the S button.

   The beginning of the list of topics that begin with the letter s *appears.*

6. If necessary, scroll the list until you can see the topic "Save As command (File menu)."

7. Select the Save As command (File menu) option.

   Information on using the Save As command appears, along with descriptions of each option in the Save As dialog box.

8. Briefly scan the information on this topic. Be sure to scroll the information in the Help window.

   Notice that below the information on using the Save As command there is a list of related, underlined Help topics and two chapter references to the user's guide that comes with the software.

9. Select the Back button.

   The information you viewed before—the index of topics beginning with the letter s*—appears.*

10. Select the Back button as many times as is necessary to display the first Help screen, the Contents list.

    The Help Contents appears in the window, and the Back button is no longer active.

11. Click on the History command button.

    The Windows Help History window appears.

12. Double-click on the Save As command (File menu) topic in the Windows Help History window.

    The information on the Save As command reappears. You might see part of the Windows Help History window, which remains on screen. Like the Excel program and the Excel Help program, the Help History window runs as a separate application.

13. If necessary, drag the Microsoft Excel Help window to one side, so you can see the Windows Help History window.

14. Double-click on the Windows Help History Control-menu box.

    The Help History window is no longer active.

15. If necessary, click anywhere on the Microsoft Excel Help window to activate it.

16. Select the Search button.

    The Search dialog box appears.

17. Type **printi**

NOTE *Be sure to include the letter* i *at the end.*

You should see help topics beginning with the letter p.

18. Click on the up or down scroll arrows, as necessary, until you see the topic "Printing" in the list.
19. Select Printing to highlight it, if necessary.
20. Select the Show Topics button.

    A list of five topics related to printing appears in the Go To list box.
21. Select the topic "Print Command (File Menu)" to highlight it.
22. Select the Go To button.

    Information on using the Print command appears in the Help window. Scan through the information; you will learn how to use this command in the next section of this lesson.
23. Select the File pull-down menu in the Help window.
24. Select the Exit command.

    The Excel Help window closes, and you return to the active worksheet.

PRINTING A RANGE OF DATA

Spreadsheet data would be of limited use if it could not be transferred to paper or hard copy. When using Excel, you can print selected worksheet data in one of two ways: Select either the Print button to send the data directly to the printer, or the Print command on the File pull-down menu to display printing options in the Print dialog box. When you select the Print command, you can specify a selection, which is a range of specific worksheet cells; selected sheets; or an entire workbook (file). For now, we will concentrate on simply printing a range of data in a single worksheet. Once you specify what you want to print in the Print dialog box, you tell Excel to send the data to the printer by selecting the OK command button. The general procedure for printing is as follows:

- Check that the printer is turned on, is ready to print, and that the paper is properly aligned.
- Select the range of data you want to print. (See the following sections for details.)
- Select the Print button to send the selected data directly to the printer. Or, select the Print command on the File pull-down menu to display the Print dialog box.
- Select the Selection radio button, if necessary.
- Select any other print options, if desired.
- Select the OK command button.

SELECTING RANGES FOR COMMAND OPERATIONS

As mentioned earlier in this lesson, many Excel procedures require you to select one or more ranges while executing commands. Recall that we define a range as any rectangular group of contiguous cells. The printing operation will be the first command operation covered in this book for which you can select a range.

In the Excel for Windows environment the simplest way to select a visible range of data is to use the mouse to highlight it. To do this, position the mouse cursor over the cell in the upper-left corner of the range you want to select, and press and hold the mouse button. Then drag the mouse cursor to the cell in the lower-right corner of the range you want to select, and release the mouse button. The selected range of cells will appear black, or in a different color, as shown in Figure 1-21.

You can use the keyboard to select a range, which is sometimes more convenient when your hands are there anyway during data entry. To use the keyboard to select a range, use the following procedure:

- Move the cell cursor to the first cell in the upper-left corner of the range you want to select.
- Press and hold Shift.
- Press any combination of arrow keys to extend the highlight to the cell in the lower-right corner of the range you want to select.
- Release Shift.

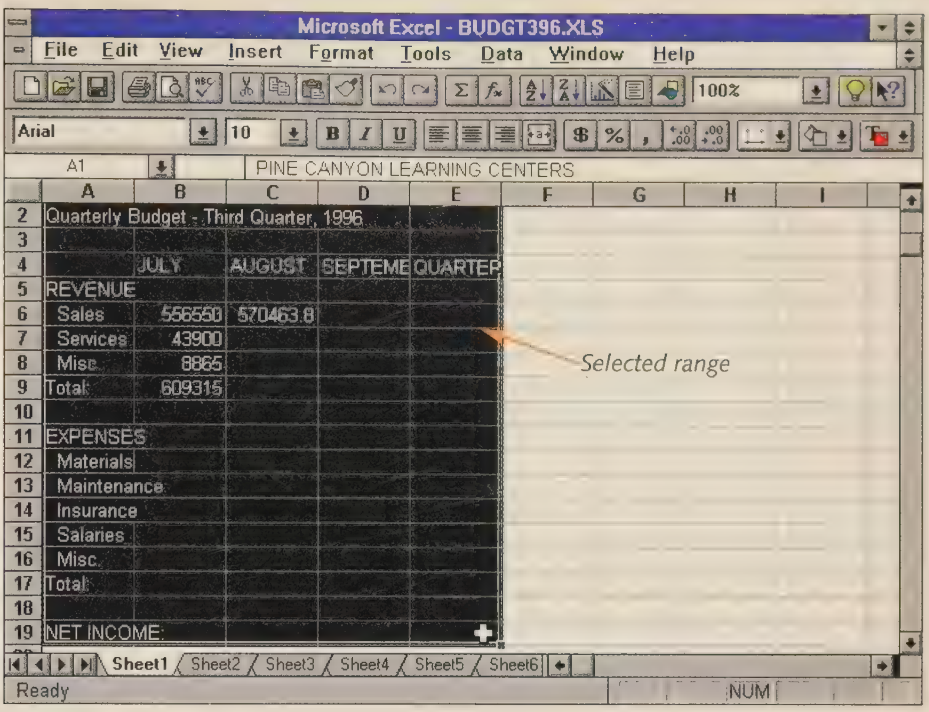
PRINT A RANGE OF DATA

Go ahead and practice this procedure by printing the range of July revenue projections.

1. Make sure your worksheet is active and Excel is ready.
2. Check that your system's printer is turned on, is ready, and that the paper is properly aligned.
3. Position the mouse cursor over cell A1.
4. Press and hold the left mouse button, and drag the highlight down to cell E19.

   The range A1:E19 is selected, as shown in Figure 1-21.
5. Select the File pull-down menu.
6. Select the Print command.

   The Print dialog box appears, as shown in Figure 1-22.
7. Check that the printer name and model listed at the top of the dialog box is correct for the printer connected to your system.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6

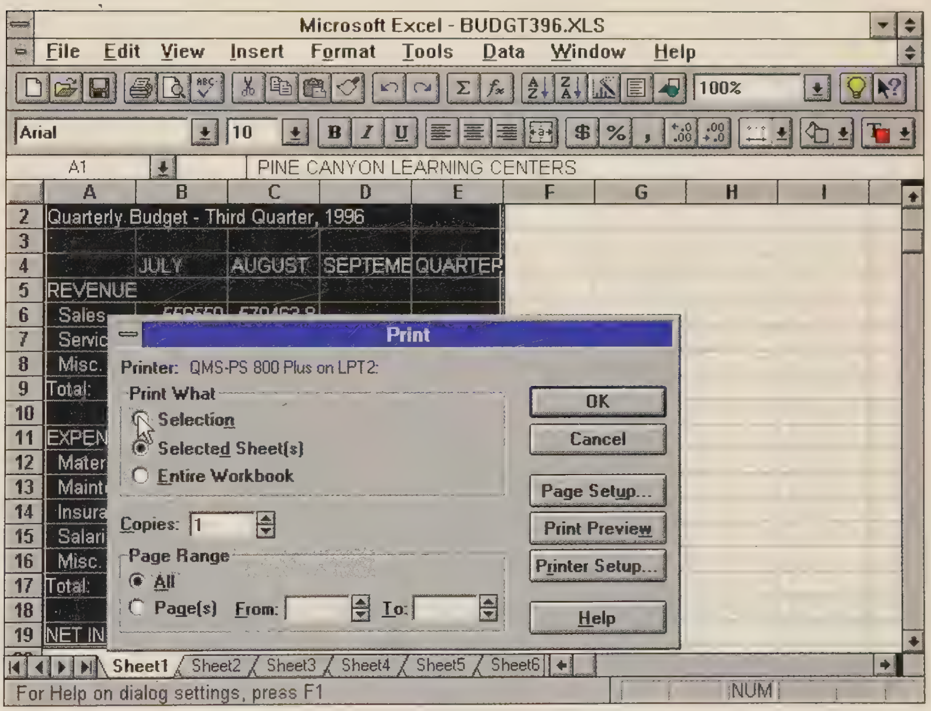
A1: PINE CANYON LEARNING CENTERS

	A	B	C	D	E
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550	570463.8		
7	Services	43900			
8	Misc.	8865			
9	Total:	609315			
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				
17	Total:				
18					
19	NET INCOME:				

Selected range

Ready NUM

FIGURE 1-21
When you select a range with the mouse or keyboard, the selection appears like this in the worksheet window.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
Print
OK
Cancel
Page Setup...
Print Preview
Printer Setup...
Help
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6

A1: PINE CANYON LEARNING CENTERS

Printer: QMS-PS 800 Plus on LPT2:

Print What
○ Selection
● Selected Sheet(s)
○ Entire Workbook

Copies: 1

Page Range
● All
○ Page(s) From: To:

For Help on dialog settings, press F1 NUM

FIGURE 1-22
The Print dialog box appears when you select the Print command on the File pull-down menu. Use this dialog box to set print settings and print a range of worksheet data.

If it is not, check with your instructor or your lab's technical support person before you change the current printer selection setting.

8. Select the Selection radio button in the Print What box, if necessary.
9. Select the OK command button.

The selected data is sent to the printer, which should soon begin printing. If the printer does not appear to be printing, check the connections to the system and try again. If printing is still unsuccessful, consult your instructor or technical support person.

Take a look at your printed hard copy. Notice that the label "SEPTEMBER" in cell D4 did not print fully because it is truncated in the worksheet. This printing exercise was just for practice to get you familiar with the printing procedure. In a later lesson you will print a more presentable print range.

UPDATING AN EXISTING WORKBOOK FILE

Saving your work often is very important for the reasons cited earlier during the discussion of saving workbook files for the first time. Generally, it is wise to save your work every 10 to 15 minutes. Saving data in an existing file is similar to saving a workbook file for the first time, except that you do not have to specify the file's name again. As long as you want the data to be stored under the same file name, saving the file again means updating the existing file with the latest changes. To save data to the current file, either select the Save command on the File pull-down menu, or select the Save button. The Save button is located on the Standard toolbar.

SAVE WORKSHEET CHANGES

You will now practice updating the current budget workbook file by saving it again.

1. Select cell A1 to remove the range selection.
2. Select the Save button.

The status line briefly displays a message telling you that the file BUDGT396.XLS is being saved.

Try to develop the habit of saving your work before printing data. Saving before you print will prevent the loss of unsaved work should a glitch in the printing process freeze your computer.

CLOSING AN EXCEL WORKBOOK FILE

You can close an Excel workbook file at any time. If there are any unsaved changes, then you will be asked to either save them (Yes button), not save them (No button), cancel the close operation (Cancel button), or go directly to Help information (Help button) when you attempt to close the file. Try to get into the habit of saving before you close a workbook file. You can close a workbook file by either double-clicking on the file window's Control-menu box (or pressing Ctrl+F4), or by selecting the File, Close command.

CLOSE A WORKBOOK FILE

Before you exit Excel, practice closing a workbook file.

1. Make sure Excel is ready.
2. Double-click on the File window's Control-menu box.

   The budget workbook file closes, the worksheet window is blank, and only the File and Help pull-down menus are available.

EXITING EXCEL

Properly exiting any software program is important for maintaining efficient operation of the computer system. Like any application you are running in the Microsoft Windows environment, there are four methods from which you can choose to exit the Excel program. For the sake of review, these methods are outlined as follows:

- Double-click on the Control-menu box in the upper-left corner of the Microsoft Excel window.
- Select the Close command on the control menu for the Microsoft Excel window (or press Alt+F4).
- Select the Exit command on the File pull-down menu.
- Select the Switch To command on the control menu for the Microsoft Excel window (or press Ctrl+Esc) to display the Task List window. Then highlight the Microsoft Excel application name in the list, and click on the End Task button.

EXIT THE MICROSOFT EXCEL APPLICATION

To complete Lesson 1, exit the Excel program and return to Microsoft Windows.

1. Select the File pull-down menu.
2. Select the Exit command.

   The Excel program window closes, and the Windows' Program Manager window is active.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Set working directory	Tools, Options, General	Alt+t, o, g *or* Alt+d	
Save workbook file (first time)	File, Save As	Alt+f, a	💾
Save (update) workbook file	File, Save	Alt+f, s	💾
Display help contents	Help, Contents	Alt+h, c *or* F1	
Display help index	Help, Index	Alt+h, i	
Display context-specific help information	Select Help button, then select button, command, or screen element		↖?
Display help demonstration screen	Help, Examples and Help, Demos	Alt+h, e	
Print selected data	File, Print	Alt+f, p	🖨
Close workbook file	File, Close	Alt+f, c *or* Ctrl+F4	
Exit Excel	File, Exit	Alt+f, x *or* Alt+F4	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. budget	**a.** Numeric data entry
2. cell	**b.** Symbol that specifies a specific arithmetic operation
3. range	**c.** Information on the command or item currently in use
4. label	**d.** Projection for revenue and costs over upcoming period
5. working directory	**e.** Text that identifies numeric data
6. formula	**f.** Worksheet unit at intersection of column and row
7. value	**g.** Grid structure that stores financial or numeric data
8. context-specific help	**h.** Current file location
9. operator	**i.** Mathematical expression that calculates worksheet data
10. worksheet	**j.** Rectangular group of contiguous cells

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. A single item of data is stored in:

- **a.** A column
- **b.** A pull-down menu
- **c.** A cell
- **d.** A button

2. Worksheet rows are identified by:

- **a.** Letters
- **b.** Numbers
- **c.** Cell addresses
- **d.** Names

3. A formula in a worksheet operates on:

- **a.** Values included in the formula
- **b.** Values stored in other cells
- **c.** a and b above
- **d.** None of the above

4. What is the operator order of precedence?

- **a.** The order in which the spreadsheet performs mathematical computations represented by the operators in a formula
- **b.** The order in which formulas are entered in a worksheet
- **c.** The order in which cell references are placed in a formula
- **d.** An operator ordering scheme in which a spreadsheet performs mathematical computations randomly

5. "Pointing" refers to:

- **a.** A method for selecting a workbook file
- **b.** A technique for inserting cell references in a formula
- **c.** A procedure for telling a spreadsheet where to locate a label
- **d.** A system for directing data to a printer

6. Displaying help information on the Print command while in the midst of using the command is an example of:
   - a. An Excel Help demonstration
   - b. The Microsoft CBT system
   - c. Context-specific help
   - d. Searching the Excel Help feature

7. Worksheet data that has neither been printed nor saved in a workbook file exists only:
   - a. On screen
   - b. In a disk drive
   - c. On paper
   - d. In random-access memory

8. What is the primary purpose of a budget?
   - a. To calculate the actual net income for a past period
   - b. To calculate projected net income for a future period
   - c. To calculate a company's current inventory on hand
   - d. To calculate income taxes for a prior year

9. A spreadsheet is a tool that is best used for:
   - a. Generating form letters
   - b. Communicating with other PCs on a network
   - c. Combining text and graphics into sophisticated page layouts
   - d. Storing and analyzing numeric, financial, or scientific data

10. The number of cells available in a single Excel worksheet is:
    - a. Over 4 million
    - b. Under 4 million
    - c. 16,384
    - d. 2,098,152

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. How can you tell that Excel is ready for you to begin entering data in a worksheet?

2. Describe the three types of information you can enter into a cell.

3. Can a single cell be considered a range? Explain your answer.

4. Suppose you want to increase a value stored in cell D12 by 10 percent and then decrease the result by 42. Write the formula you would build to display the result in cell E15.

5. Suppose you have just selected the Print command on the File menu and realize that you did not save the workbook file first. Describe how you would cancel the current command and execute the file save operation.

APPLICATION PROJECTS

To complete the following projects, load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary. Insert your work disk or Student Data Disk into drive A (or B). Change the working directory to the drive containing your work disk or Student Data Disk, if necessary.

1. Do the following to create the sales-tracking worksheet shown in Figure 1-23.
   a. Enter the labels as shown in the figure.
   b. Enter all the values as shown in the figure. Use the numeric keypad and the cell cursor movement keys for swift data entry.
   c. Save the worksheet in a workbook file named SUBSALES.XLS.
   d. Suppose you are given the following list of corrections:

      Southwest June sales = 20265

      Southeast November sales = 17990

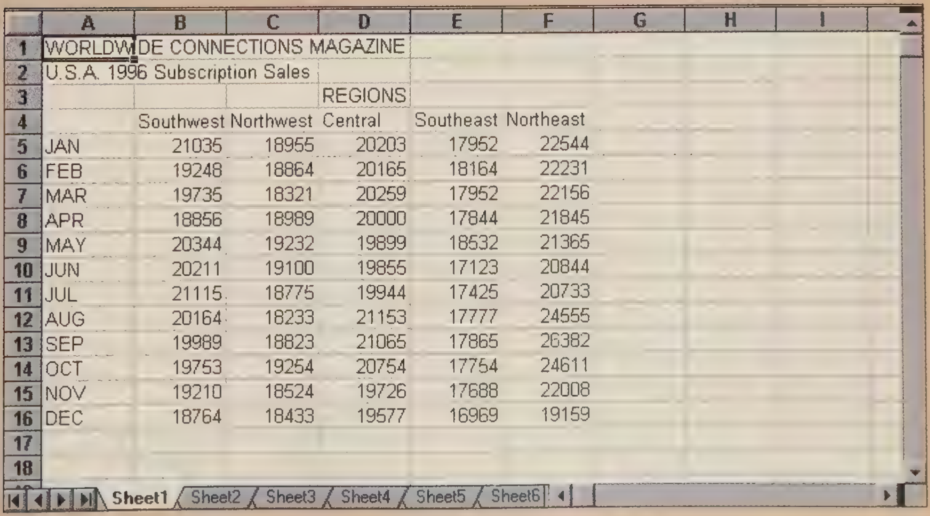
      Northeast August sales = 24554

      Central May sales = 19995

      Central July sales = 18556

FIGURE 1-23

Create this sales-tracking worksheet for application project 1.



	A	B	C	D	E	F	G	H	I
1	WORLDWIDE CONNECTIONS MAGAZINE								
2	U.S.A. 1996 Subscription Sales								
3				REGIONS					
4		Southwest	Northwest	Central	Southeast	Northeast			
5	JAN	21035	18955	20203	17952	22544			
6	FEB	19248	18864	20165	18164	22231			
7	MAR	19735	18321	20259	17952	22156			
8	APR	18856	18989	20000	17844	21845			
9	MAY	20344	19232	19899	18532	21365			
10	JUN	20211	19100	19855	17123	20844			
11	JUL	21115	18775	19944	17425	20733			
12	AUG	20164	18233	21153	17777	24555			
13	SEP	19989	18823	21065	17865	26382			
14	OCT	19753	19254	20754	17754	24611			
15	NOV	19210	18524	19726	17688	22008			
16	DEC	18764	18433	19577	16969	19159			
17									
18									

Make the appropriate changes to the worksheet's data and save the changes.

- **e.** Print the range of worksheet data.
- **f.** Close the workbook file.

2. Do the following to create the personal net-income statement worksheet shown in Figure 1-24.

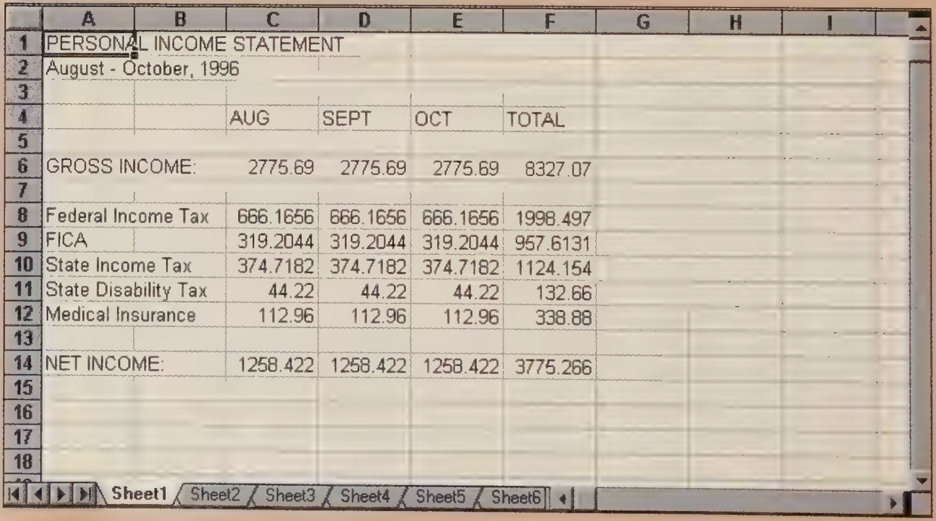
- **a.** Enter all the labels as shown. Enter the gross income values shown in columns C, D, and E.
- **b.** Enter a formula that calculates a percentage of the gross income for the following first three AUG tax deductions. Use these percentage factors (example: =c6*.24):

Federal Income Tax	24%
FICA	11.5%
State Income Tax	13.5%

- **c.** For the AUG Medical Insurance and State Disability Tax amounts, enter the values shown in the figure.
- **d.** Copy the formulas and values for August deductions to columns D and E.
- **e.** In the TOTALS column, enter formulas that sum the monthly gross income and deduction amounts.
- **f.** Enter formulas that calculate net income by subtracting the sum of deductions from gross income.
- **g.** Save the worksheet in a workbook file named NETINCOM.XLS.
- **h.** Print the range of worksheet data, and close the workbook file.

FIGURE 1-24

Create this personal net-income statement worksheet for application project 2.



	A	B	C	D	E	F	G	H	I
1	PERSONAL INCOME STATEMENT								
2	August - October, 1996								
3									
4			AUG	SEPT	OCT	TOTAL			
5									
6	GROSS INCOME:		2775.69	2775.69	2775.69	8327.07			
7									
8	Federal Income Tax		666.1656	666.1656	666.1656	1998.497			
9	FICA		319.2044	319.2044	319.2044	957.6131			
10	State Income Tax		374.7182	374.7182	374.7182	1124.154			
11	State Disability Tax		44.22	44.22	44.22	132.66			
12	Medical Insurance		112.96	112.96	112.96	338.88			
13									
14	NET INCOME:		1258.422	1258.422	1258.422	3775.266			
15									
16									
17									
18									

3. Do the following to create the closing inventory-report worksheet shown in Figure 1-25.

a. Enter the labels and the values in columns B, C, and E, as shown.

b. Enter formulas for the STOCK (column D) calculations. These formulas subtract the number of units distributed in column C from the number of units manufactured in column B.

c. Enter formulas that calculate products for the T COST column. Each formula multiplies the U COST value in column E and the UNITS value in column B.

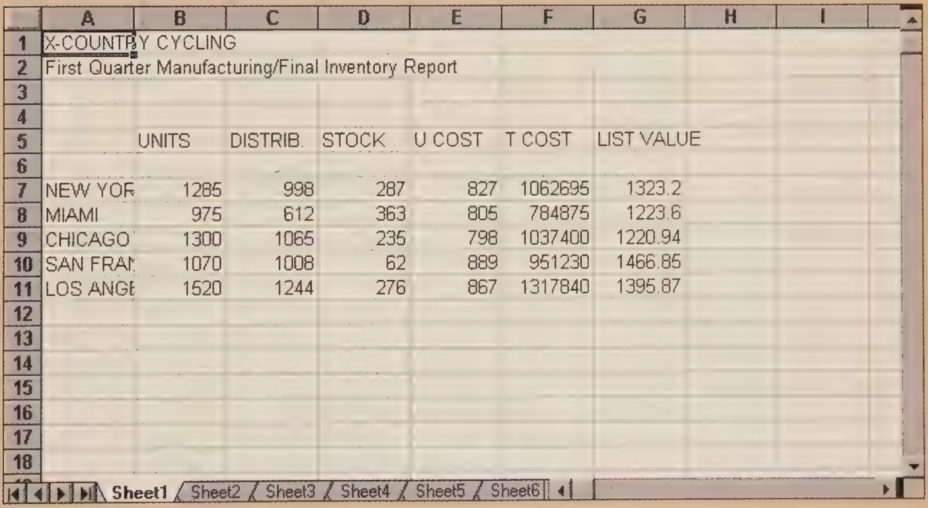
d. Enter formulas that calculate the RET. VALUE (suggested retail markup) for each unit. Each formula increases the U COST value in column E by the rate listed as follows (example: =F7+F7*.60):

New York	60%
Miami	52%
Chicago	53%
San Francisco	65%
Los Angeles	61%

e. Save the worksheet in a workbook file named INVREPRT.XLS.

f. Print the range of worksheet data.

g. Exit the Excel program.



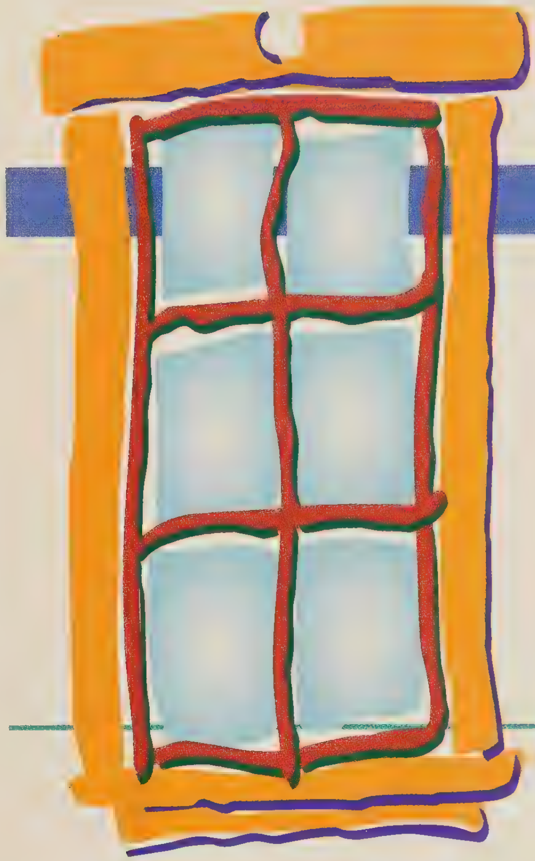
X-COUNTRY CYCLING

First Quarter Manufacturing/Final Inventory Report

	UNITS	DISTRIB.	STOCK	U COST	T COST	LIST VALUE
NEW YOR	1285	998	287	827	1062695	1323.2
MIAMI	975	612	363	805	784875	1223.6
CHICAGO	1300	1065	235	798	1037400	1220.94
SAN FRAI	1070	1008	62	889	951230	1466.85
LOS ANGE	1520	1244	276	867	1317840	1395.87

FIGURE 1-25

Create this closing inventory-report worksheet for application project 3.



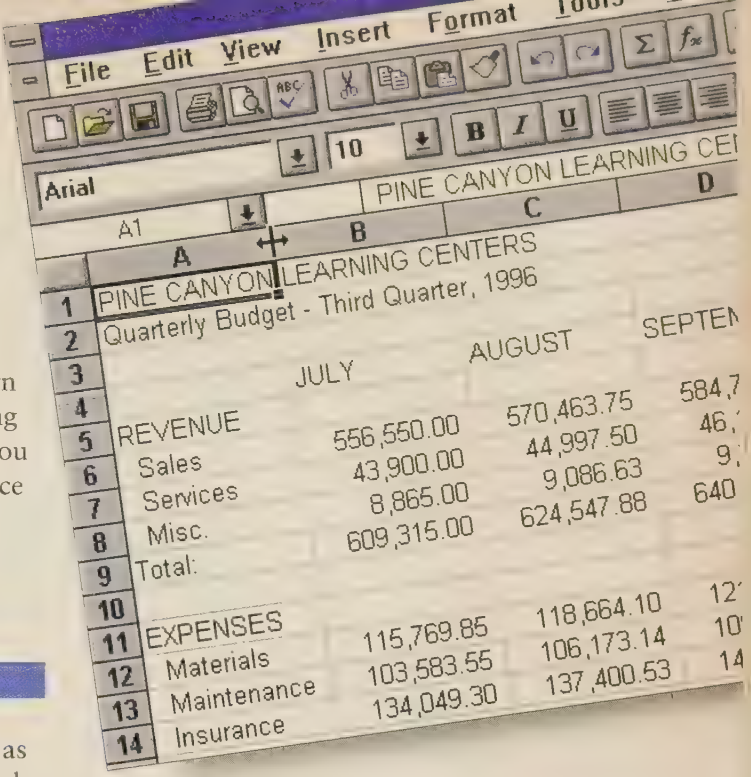
LESSON 2

EDITING AND FORMATTING A BUDGET WORKSHEET

OBJECTIVES

After completing this lesson, you will be able to:

- *Open a workbook file.*
- *Copy a range of data.*
- *Use the Undo feature to reverse an operation.*
- *Copy formulas with relative cell references to perform multiple calculations.*
- *Use the SUM function to calculate a sum.*
- *Assign names to ranges and sheets.*
- *Use absolute cell references in formulas.*
- *Use mixed cell references in formulas.*
- *Edit an existing cell entry.*
- *Format a range of values.*
- *Change the width of one or more columns.*
- *Align label text within cells.*



	A	B	C	D
1	PINE CANYON LEARNING CENTERS			
2	Quarterly Budget - Third Quarter, 1996			
3				
4		JULY	AUGUST	SEPTEM
5	REVENUE			
6	Sales	556,550.00	570,463.75	584,7
7	Services	43,900.00	44,997.50	46,
8	Misc.	8,865.00	9,086.63	9,
9	Total:	609,315.00	624,547.88	640
10				
11	EXPENSES			
12	Materials	115,769.85	118,664.10	12
13	Maintenance	103,583.55	106,173.14	10
14	Insurance	134,049.30	137,400.53	14

You will begin this lesson by opening the budget worksheet file you started in Lesson 1. Then you will learn to use many of Excel's editing and formatting features as you continue to build and enhance the budget worksheet.

OPENING A WORKBOOK FILE

Excel allows you to open as many workbook files, or worksheets within a workbook, as memory on your system allows. Each time you open a new or existing workbook, Excel opens a new window for the file. You can also open as many worksheets as you like within a single workbook. Using multiple worksheets within a workbook will be discussed later in this book.

OPENING A NEW WORKBOOK

There are two ways to open a new, blank workbook file. The quickest method is to click on the New File button, which is located on the extreme left end of the Standard toolbar—as it is in all Windows applications. The alternative method is selecting the New command on the File pull-down menu (or pressing Ctrl+n). When you use either method, a new, blank workbook file appears in a full-screen window, by default.

OPENING AN EXISTING WORKBOOK

There are three ways to open an existing workbook file that is stored on disk. They are summarized as follows:

- Select the Open command from the File pull-down menu (or press Ctrl+o).
- Select the Open button on the Standard toolbar.
- If the workbook you want to open was one of the last four workbooks you opened previously when using Excel, then you can select its file name from a list on the File pull-down menu.

The first two methods above display the Open dialog box, as shown in Figure 2-1. This dialog box looks very similar to the Save As dialog box. You first select the disk location, if necessary, and then select a file name in the scroll list. If you wish, you may type the file name for the workbook you want to open in the File Name edit field, instead of using the scroll list.

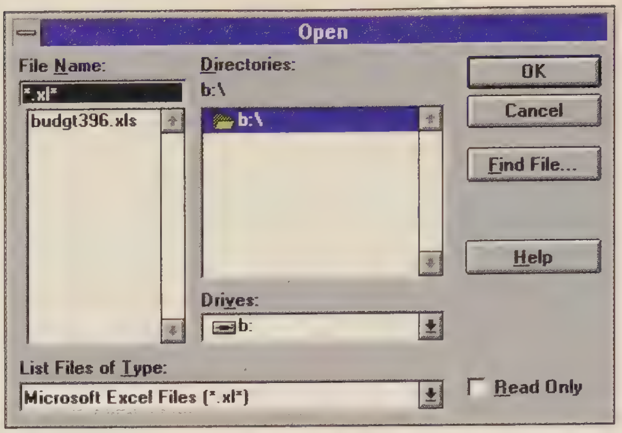


FIGURE 2-1

The Open dialog box allows you to select a worksheet file stored on any drive or directory.

OPEN A WORKBOOK FILE

Now go ahead and begin this lesson by opening the budget worksheet file you created in Lesson 1.

1. If necessary, start your computer, load Microsoft Windows, and then load Microsoft Excel for Windows.
2. If necessary, insert your data disk that contains the budget worksheet file into drive A (or drive B).
3. Click on the File Open button.

   The Open dialog box appears.
4. If necessary, select the disk drive and/or directory to activate the desired disk location.
5. Double-click on the file name BUDGT396.XLS.

   The file loads, and your screen should appear similar to Figure 2-2.

Notice that the active workbook's file name appears to the right of the program name on the Title bar.

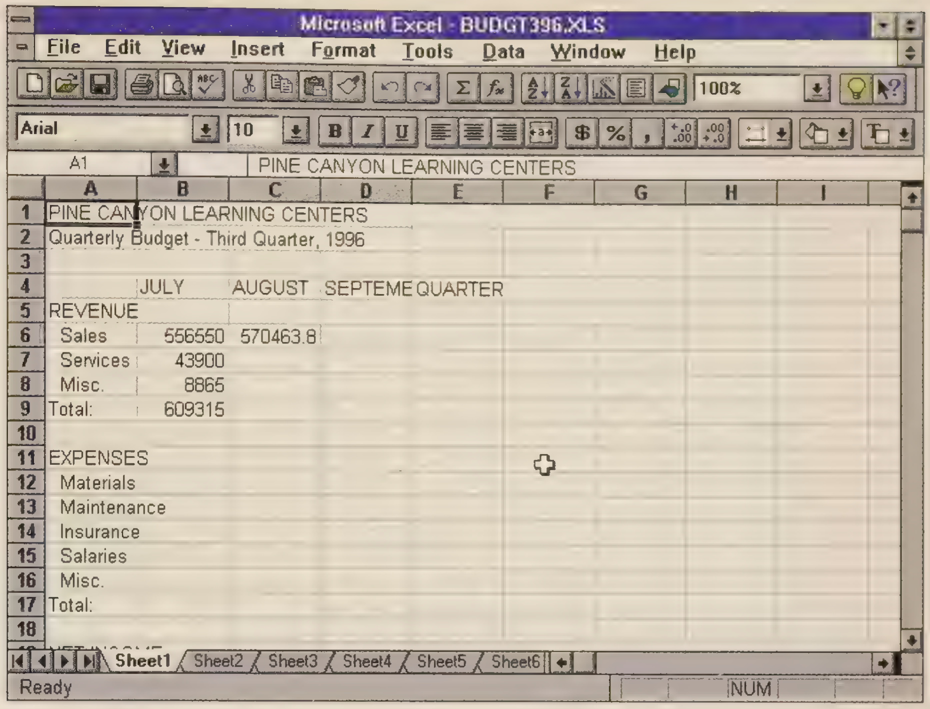
COPYING DATA

Excel's ability to copy labels, values, and formulas is a powerful feature that you will use frequently as you build worksheets. Use the copy operation to copy data from a source range to a target range, thereby reducing repetitive keystrokes and command selection while you build large or complex worksheets. The range of data you want to copy is the **source range**, and the destination where you want to place the copied data is the **target range**.

When you copy data from one cell or range to another, the original data remains intact in the source range, and the target range contains either exact copies of labels and values, or copies of formulas with different variables, depending on the types of cell references in the formulas. Cell references will be discussed shortly.

FIGURE 2-2

After you open the budget workbook file, your worksheet window should look similar to this.



	A	B	C	D	E	F	G	H	I
1	PINE CANYON LEARNING CENTERS								
2	Quarterly Budget - Third Quarter, 1996								
3									
4		JULY	AUGUST	SEPTEME	QUARTER				
5	REVENUE								
6	Sales	556550	570463.8						
7	Services	43900							
8	Misc.	8865							
9	Total:	609315							
10									
11	EXPENSES								
12	Materials								
13	Maintenance								
14	Insurance								
15	Salaries								
16	Misc.								
17	Total:								
18									

You copy a selection of data by either selecting the Copy command on the Edit menu (or pressing Ctrl+c) or by selecting the Copy button. In either case, the selected data copies to the Windows Clipboard, where it is stored until you replace it by copying (or cutting) other data that replaces it. The Windows Clipboard is a buffer. A **buffer** is a portion of random-access memory (RAM) that you use to store data temporarily until you need it. Recall that RAM is the computer's memory, which holds data temporarily until you save it to disk.

With the data copied to the Clipboard, you can move the cell cursor to any other location in the worksheet (or workbook) and select the Paste command from the Edit pull-down menu (or press Ctrl+v). Alternatively, you can select the Paste button, which is right beside the Copy button on the Standard toolbar. The paste operation places the copied data in the target range.

When you paste data into the target range, most of the time you only need to move the cell cursor to the first cell in the range. The copy of the source data will appear in a target range that is the exact size (number of cells) as the source range. Be aware, however, that the Paste command overwrites any existing data in the target range with the copied data.

COPYING DATA BY DRAGGING IT

In Excel's GUI environment you can use your mouse to quickly drag selected source data to copy it to a nearby target range. To carry out the copy operation with the mouse, first position the mouse cursor over the cell cursor's outline that surrounds the active cell or the selection border that outlines a selected range. The mouse cursor changes to an arrow when it is properly positioned over the outline. Next, press and hold Ctrl; a small plus sign (+) appears besides the mouse cursor (arrow). Then press and hold the left mouse button. A dashed outline appears around the source data. Drag the dashed outline to another location in the worksheet, and release Ctrl and the mouse button together. The source data copies to the selected target range. If you want to copy the source data to an area that is not visible in the worksheet window, just drag the outline to the edge of the window, which scrolls other areas of the worksheet into view.

USING THE UNDO COMMAND

Excel provides a convenient way for you to reverse the last operation you have performed or to delete the last entry you have typed. There are two ways to reverse an operation with the Undo command. You can either select the Undo command from the Edit pull-down menu (or press Ctrl+z), or you can click on the Undo button, which is on the Standard toolbar. If the last thing you did can be reversed, the Undo command on the Edit menu appears with the name of the operation that can be reversed—for example, "Undo Entry" or "Undo Paste." If the action you have performed previously cannot be reversed, the command appears as the dimmed label "Can't Undo."

Whether you select the Undo command or button, the last action or the last series of actions reverses, depending on the types of operations you have performed. If you select a command or perform an operation by mistake, you must select the Undo command before you do anything else. Otherwise, you may not be able to reverse the action you intend. You can also "undo" the Undo command by selecting it a second time immediately after you select it the first time. After you use the Undo command to reverse an action, it changes on the Edit menu to "Redo (*u*)" followed by the name of the action (for example, Redo (*u*) Entry). When you reverse the Undo command, everything returns to the way it was before you carried out the first Undo command.

COPY A RANGE

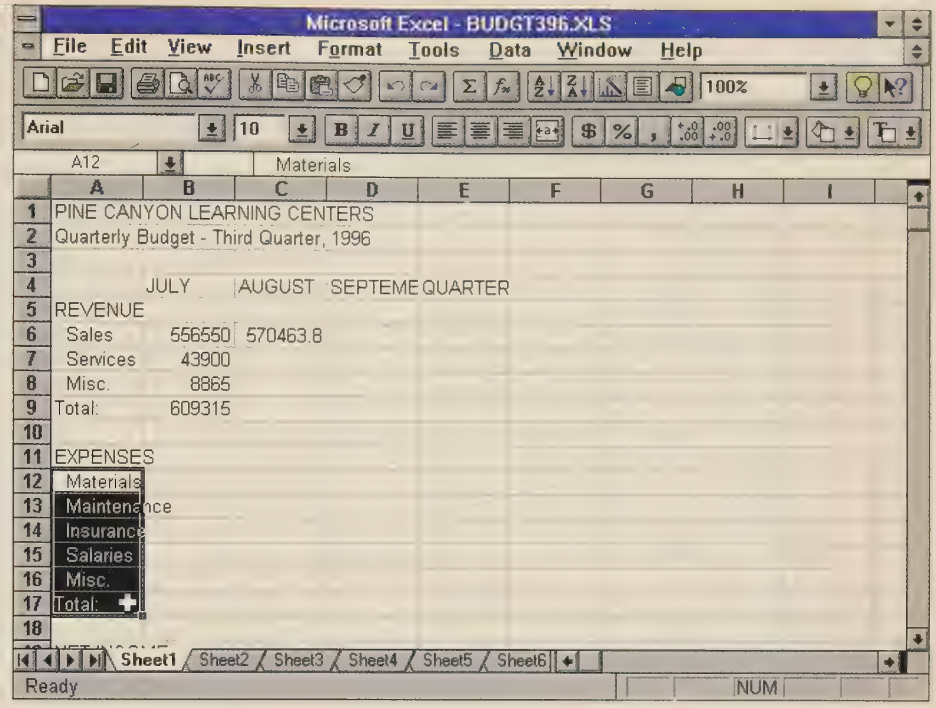
Continue building your budget worksheet by copying the range of expense category labels to another range. These label copies will identify percentage constants that you will use later in formulas to calculate projected expenses.

1. Make sure Excel is ready.
2. Move the mouse cursor over cell A12, which contains the indented label "Materials."
3. Press and hold the mouse button, drag the highlight from cell A12 down to cell A17, and release the mouse button.

   The range A12:A17 is selected, as shown in Figure 2-3.

FIGURE 2-3

The range of expense labels highlights like this when you select it.



A12 Materials

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550	570463.8		
7	Services	43900			
8	Misc.	8865			
9	Total:	609315			
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				
17	Total:				
18					

4. Click on the Copy button.

   The selected (source) range copies to the Clipboard.

5. Scroll the worksheet, if necessary, and select cell A25.

NOTE

If cell A25 is not visible in the worksheet window, use the vertical scroll bar to scroll the sheet so that you can see cell A25.

6. Select the Paste button.

   The selected data copies to the target range (A25:A30).

Notice that the target range also contains a copy of the label "Total:" in cell A30. Copying this label was a mistake. Before doing anything else, you will practice using the Undo command.

7. Select the Edit pull-down menu.
8. Select the Undo Paste command.

   The last operation reverses, canceling the Paste operation. Notice that the target range remains selected.

TIP

Notice that if you are using the keyboard to carry out the Undo command, you can press Ctrl*+z again to execute it.*

9. Click on the Undo button.

   Notice that the second Undo command "undoes" or reverses the first Undo command, and the labels again appear in the target range.

10. Click on the Undo button again.

The Undo command toggles the worksheet back to its status before the Paste command was executed.

11. Scroll the worksheet, if necessary, and position the mouse cursor over cell A12.

12. Press and hold the left mouse button, and drag the highlight down to cell A16 to select the range A12:A16.

13. Position the mouse cursor over any side of the outline that surrounds the selected range.

The mouse cursor changes to an arrow.

14. Press and hold Ctrl.

A plus sign (+) appears beside the mouse cursor.

15. Press and hold the left mouse button.

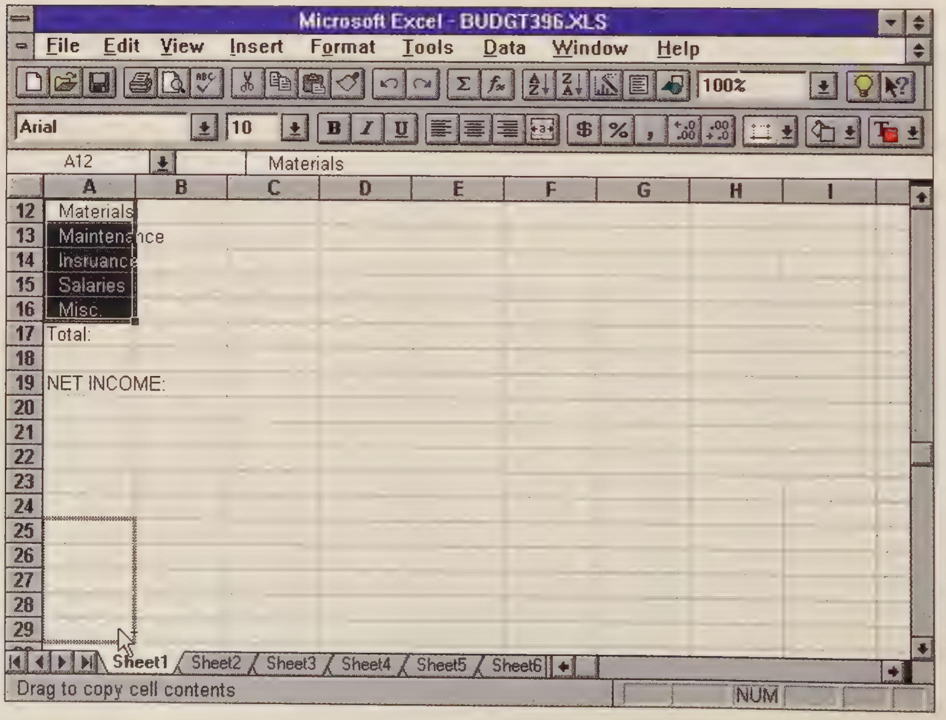
16. Drag the selection outline down so that its first cell is over cell A25, as shown in Figure 2-4.

17. Release the mouse button, and then release Ctrl.

The range of expense labels copies to the target range, A25:A29.

18. Use the vertical scroll bar, if necessary, to view the target range in the worksheet window.

You can see the labels in the target range.



A12 Materials

12 Materials
13 Maintenance
14 Insruance
15 Salaries
16 Misc.
17 Total:
18
19 NET INCOME:

Drag to copy cell contents

FIGURE 2-4

When you use the mouse to copy a range, place the range outline where you want the target range to be.

19. Select cell A1.

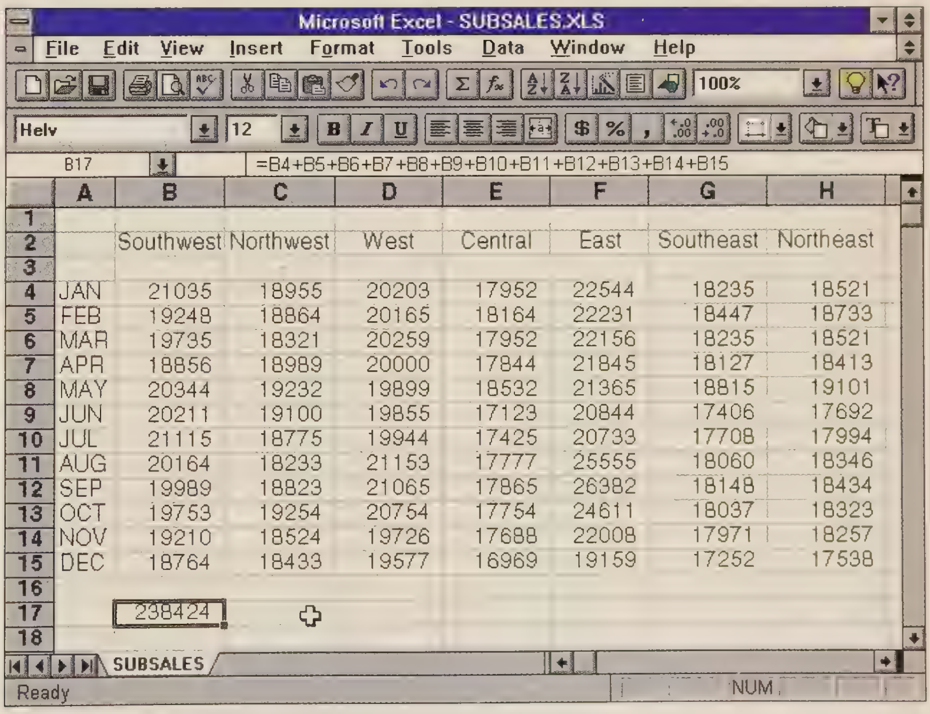
20. Select the Save button.

The latest changes are saved to disk.

COPYING FORMULAS

Copying labels or values from one range to another is a straightforward procedure; Excel places a copy of the source data in the target location. But copying formulas requires more flexibility. Oftentimes you want to copy a formula so that the target cell formula operates on, or references, data other than the data referenced in the original formula.

To illustrate, let's suppose you enter a formula in a column B cell that sums a range of values stored in the same column, as shown in Figure 2-5. Suppose you also need similar formulas in columns C through H to sum ranges of values stored in those columns. You could create a similar formula in each column. That would be fine if the formula were only necessary in two or three columns. But suppose you were building a worksheet that requires similar formulas in 200 columns. Naturally it would be far more efficient to simply create the formula once and then copy it to as many target cells as you require. When the copies are placed in the target cells, the calculations are performed instantly and the results appear. Excel and most other spreadsheets do this quite nicely, thanks to relative cell references.



B17 =B4+B5+B6+B7+B8+B9+B10+B11+B12+B13+B14+B15

	A	B	C	D	E	F	G	H
1								
2		Southwest	Northwest	West	Central	East	Southeast	Northeast
3								
4	JAN	21035	18955	20203	17952	22544	18235	18521
5	FEB	19248	18864	20165	18164	22231	18447	18733
6	MAR	19735	18321	20259	17952	22156	18235	18521
7	APR	18856	18989	20000	17844	21845	18127	18413
8	MAY	20344	19232	19899	18532	21365	18815	19101
9	JUN	20211	19100	19855	17123	20844	17406	17692
10	JUL	21115	18775	19944	17425	20733	17708	17994
11	AUG	20164	18233	21153	17777	25555	18060	18346
12	SEP	19989	18823	21065	17865	26382	18148	18434
13	OCT	19753	19254	20754	17754	24611	18037	18323
14	NOV	19210	18524	19726	17688	22008	17971	18257
15	DEC	18764	18433	19577	16969	19159	17252	17538
16								
17		238424						
18								

FIGURE 2-5

A quick way to calculate totals for multiple columns is to create the formula with relative range references once and then copy it to the other columns.

USING RELATIVE CELL REFERENCES IN FORMULAS

To be able to copy formulas so that all the duplicate formulas operate on the appropriate data, Excel must be able to adjust the cell references in the target formula(s) so that they do not reference the same cells in the original (source) formula. The program makes this adjustment to all relative cell references that are in a formula you are copying.

A **relative cell reference** is a cell address in a formula. But it is more than just an address. It represents a specific location with respect to the cell that stores the formula. You included relative cell references in the formula you created and stored in cell C6 in your budget worksheet; so let's look at it as an example. The two cell addresses for cell B6 in the formula (=B6+B6*0.025) are relative cell references that refer to the cell that is one column to the left of the cell that holds the formula.

In other words, "relative" to cell C6, where the formula is stored, the cell B6 is one column to the left. Taken literally, the formula in cell C6 tells Excel to take the value that is stored one column to the left, multiply it by 2.5 percent, add the result to the value that is stored one column to the left, and display the result in cell C6.

When you copy a formula with a relative cell reference, the cell address in the target cell changes so that it references a cell in the same "relative" location from the target cell that the cell address in the original formula has with the source cell. Figure 2-6 illustrates how relative cell addresses change when the formula is copied from a source to a target cell. The relative cell references A3, B2, and D4 in the source cell (C6) change to E10, F9, and H11 after the formula is copied to the target cell (G13).

As you will soon see, relative cell references are the key to a spreadsheet's power as a tool for building complex worksheets. They allow you to build a formula in one cell and then copy it to any number of cells to perform multiple calculations instantly.

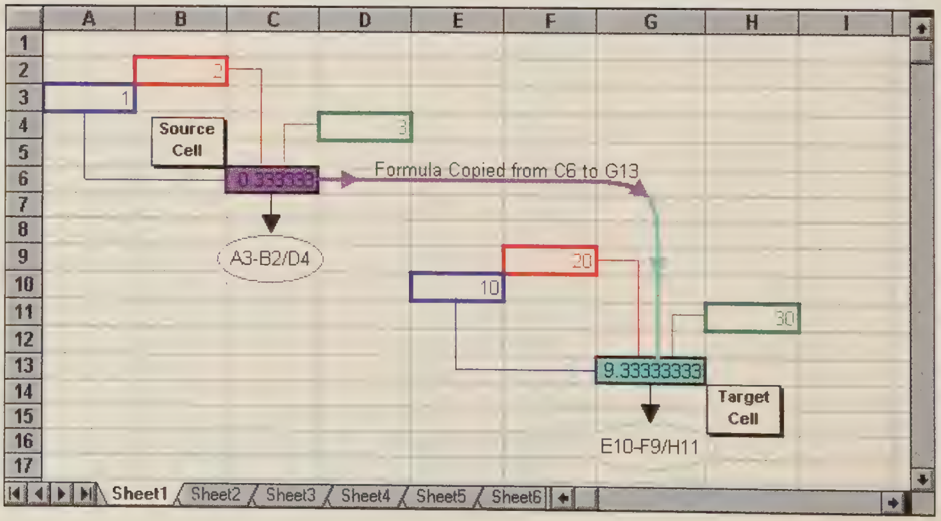


FIGURE 2-6

Relative cell references in formulas maintain the same relationship with the cell that stores the formula, even when the formula is copied to other areas of the worksheet.

COPY A FORMULA

Copy the formula that calculates projected August sales revenue to calculate projected August revenues for the services and miscellaneous items.

1. Select cell C6, which contains the projected August sales calculation.

   Note the formula that displays on the Formula bar.

2. Select the Copy button.

   The formula copies to the Clipboard.

3. Position the mouse cursor over cell C7.

4. Press the mouse button, and drag the selection highlight down to cell C8.

5. Select the Paste button.

   The source formula stored in the Clipboard copies to the selected range, and the target formulas calculate and display their results.

Look at the formula now stored in cell C7, which appears on the Formula bar. Notice that the two relative cell references are to cell B7, not cell B6 as they are in the source formula.

6. Press ↑.

   The source formula in cell C6 appears on the Formula bar. Notice its relative cell references are to cell B6.

7. Select cell C8.

   Notice that the relative cell references changed to cell B8 in this copy of the formula.

8. Select the empty range for projected September revenue formulas (D6:D8).

9. Select the Paste button.

   The source formula, which is still stored in the Clipboard, copies to the selected range, and the target formulas calculate results.

Once again, look at the formula that appears on the Formula bar for the entry in cell D6. Notice that the relative cell references in this formula adjusted so the formula operates on the data that is one cell to the left of its cell.

10. Select cell A1.

11. Select the Save button.

    The latest changes to the worksheet are stored on disk.

USING EXCEL FUNCTIONS

Look at your budget worksheet. An appropriate next step might be to calculate projected total revenues for August and September. Now that you've learned how to use the Copy command and relative cell references, you know that you can do this by simply copying the formula in cell B9 to cells C9 and D9. However, let's use this opportunity to discover another time-saving spreadsheet feature known as built-in functions.

A **function** is a special formula that carries out a specific calculation automatically. Excel's functions can save you time because they require a lot less effort than building many formulas that perform the same operation. For example, you will soon learn to use the SUM function. As its name implies, the SUM function sums a range of values. You can sum any range of values by simply entering a SUM function along with a range address in the cell where you want to display the result. So, instead of entering a formula like +E5+E6+E7+E8+E9+E10+E11+E12, you can enter =SUM(E5:E12) to obtain the same result.

Incidentally, a range address in a formula, like a cell address, is considered a relative reference, or relative *range* reference. Like a relative cell reference, a range identifies a specific location in relation to the cell that has the reference. So, you can copy a formula with a relative range reference, and its address will change to reflect the same relative location.

There are 11 categories of functions recognized by Excel. In general, functions all have a similar format or syntax, as follows:

FUNCTION NAME(argument1,argument2,...,argument30)

In this form, FUNCTION NAME refers to the name of the function, which tells Excel the type of calculation to perform. (For example, the name SUM tells Excel to perform an addition operation.)

Arguments provide the information that Excel needs to perform the specific calculation prescribed by the function. Most of Excel's mathematical functions allow you to enter up to 30 arguments. Arguments must always be enclosed in parentheses, and multiple arguments must be separated by commas (,). In some cases, an argument can be a single cell address or a single range address. In other cases, arguments can be text or numbers that represent other elements, depending on the function entry. Some functions have optional arguments.

You can enter functions and their arguments in either uppercase or lowercase. Like formulas, you must precede the function name with an equal sign (=), or an opening parenthesis (( ), so that Excel knows you are entering a formula and not a label. Also, as in building formulas, you can point to cells or ranges that are to be entered as arguments.

You will learn more about specific functions where they are relevant to the lesson material. To view information on Excel's function categories or an alphabetical list of all of Excel's functions, including detailed descriptions of each function, you can use the Excel Help feature.

USING THE SUM FUNCTION

Like entering an addition formula, you can create a SUM function by typing the function name and any argument characters enclosed in parentheses, or you can use the pointing method. The general procedure is as follows:

- Select the cell that will store the SUM function.
- Type the characters SUM(
- Type the argument characters or use the mouse or cell cursor movement keys to point to specific cells.
- If necessary, separate multiple arguments with commas (,). Spaces after the commas are permitted, but not necessary.
- Type the closing parenthesis ()) after all argument characters have been entered.
- Select the Formula bar's Enter box, press Enter, or select another cell to enter the function into the worksheet.

Alternatively, you can enter a SUM function for an adjacent range with a single click on the AutoSum button, which is on the Standard toolbar. A SUM function appears both in the current cell and on the Formula bar.

When you select the AutoSum button, Excel makes a determination about which range of values is to be summed. The address for this range is included in the SUM function's argument, and the range of values is surrounded by a flickering, dashed box. If the range selected by Excel is not the range you want to sum, use the mouse or the cell cursor movement keys to select the range you want. Then select the Formula bar's Enter box or press Enter.

ENTER A SUM FUNCTION

Continue building your budget worksheet by creating a SUM function and copying it to calculate projected revenue totals for the three months. For the sake of comparison, you will begin by replacing the addition formula stored in cell B9.

1. Make sure Excel is ready.
2. Select cell B9, where the total projected revenue for July displays.
3. Type **=sum(**

   Be sure you include the opening parenthesis.

4. Select cell B6.

   Notice that the cell reference B6 appears to the right of the opening parenthesis on the Formula bar and in the active cell, and a flickering dashed box surrounds the cell. The Point indicator appears on the status line.

5. Position the mouse cursor over cell B6.
6. Press the mouse button, and drag the dashed selection box down to cell B8.

   The range address B6:B8 appears in the SUM function's argument on the Formula bar and in the active cell, as shown in Figure 2-7.

7. Type) and press Enter.

   The SUM function is entered, and the result—the sum of the range in the argument—appears in cell B9.

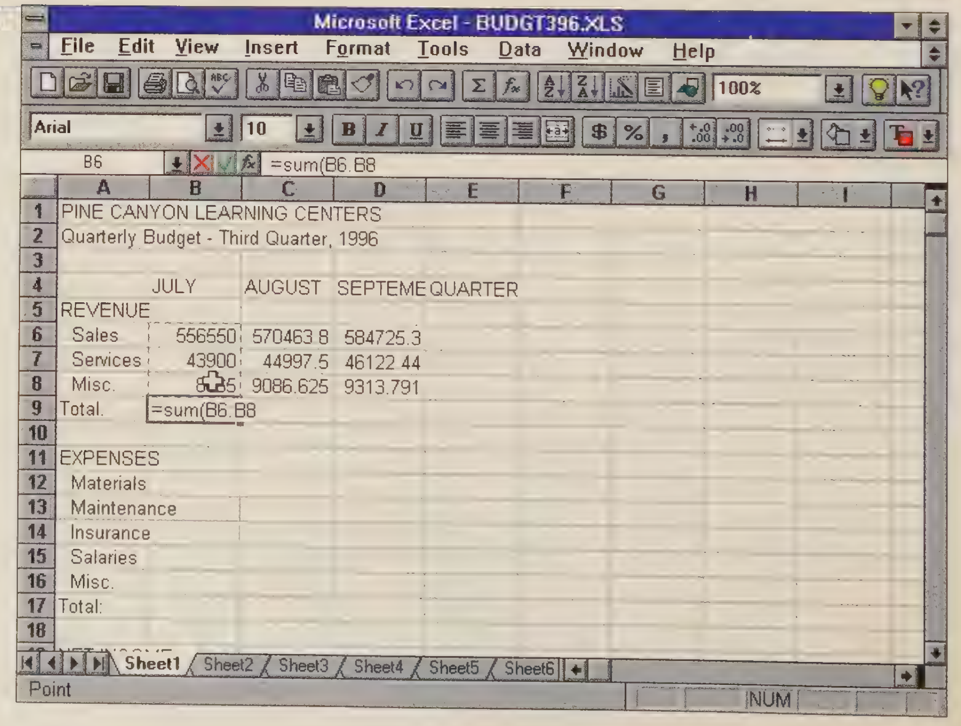
Replacing existing data with a new entry, as you just did in the preceding steps, is another editing technique for modifying existing data in a worksheet.

ENTER SUM FUNCTIONS

Although you can easily copy the SUM function you just entered to the other revenue columns, let's instead practice using the AutoSum button to calculate totals for the other columns.

1. Make sure Excel is ready.
2. Select the range C9:D9.
3. Select the AutoSum button.

   Excel determines (correctly) that the values in columns C and D are to be summed, and enters SUM functions in the selected range. The



B6 =sum(B6.B8

	A	B	C	D	E	F	G	H	I
1	PINE CANYON LEARNING CENTERS								
2	Quarterly Budget - Third Quarter, 1996								
3									
4		JULY	AUGUST	SEPTEME	QUARTER				
5	REVENUE								
6	Sales	556550	570463.8	584725.3					
7	Services	43900	44997.5	46122.44					
8	Misc.	8[illegible]5	9086.625	9313.791					
9	Total.	=sum(B6.B8							
10									
11	EXPENSES								
12	Materials								
13	Maintenance								
14	Insurance								
15	Salaries								
16	Misc.								
17	Total:								
18									

FIGURE 2-7

After you point to the range you want to sum, its address appears on the Formula bar and in the entry's display in the active cell. The active cell displays the result after the function is entered.

calculated totals appear in cells C9 and D9, and the Formula bar displays the SUM function stored in cell C9.

4. Select cell E9.
5. Select the AutoSum button.

   Excel places the SUM function in the active cell and on the Formula bar. Notice that the function's argument contains the range of monthly revenue totals.

6. Select the empty range E6:E8.

   The selected range's address is now the SUM function's argument.

7. Select the Formula bar's Enter button.

   The result appears in the active cell. Although the result of the calculation is zero, you will see the total recalculate later when you enter data in the empty range.

8. Select cell A1.
9. Select the Save button.

   The latest changes are saved to disk.

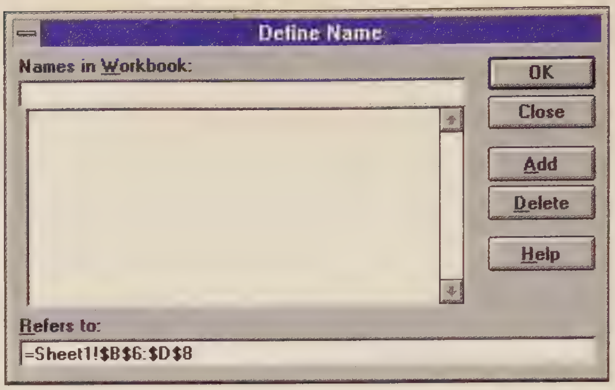
DEFINING A RANGE NAME

When building formulas or functions, using range names to reference values can be easier and more accurate than typing range references or pointing to them. A **range name** is a name of up to 255 characters that you can assign to any range in a worksheet. Range names can be composed of letters, numbers, and certain punctuation characters, like underscores (_), backslashes (\), question marks (?), and periods (.). The first character in a range name can be a letter, underscore, or a backslash only.

You can refer to the range name anytime you want to specify that particular range of data in a command or formula. You assign a name to a selected range by selecting the Name, Define command from the Insert pull-down menu (or press Ctrl+F3). The general procedure is as follows:

- Select the range of data to which you want to assign a name.
- Select the Insert pull-down menu.
- Select the Name command, which opens a pop-up submenu of options.
- Select the Define command. The Define Name dialog box appears, as shown in Figure 2-8.
- Type a name for the selected range in the edit field.
- Select the OK command button, or press Enter.

At the bottom of the Define Name dialog box is the Refers to edit field. When a name is highlighted in the Names In Workbook list, the range to which the name is associated is indicated in the Refers To edit field. Notice



=Sheet1!$B$6:$D$8

FIGURE 2-8

The Define Name dialog box appears when you select the Insert, Name, Define command. This dialog box is used to assign a name to a range.

that the cell addresses for the first and last cells in the range include dollar signs. These are called absolute cell references. This type of cell reference will be discussed later in this lesson.

Another advantage you get with range names is that they are more meaningful in describing a particular range of data. Consider these two examples:

=SUM(B6:D6) =SUM(Q3SALES)

The range address in the first SUM function argument doesn't tell you much. However, a descriptive range name like the one in the second SUM function argument describes the data on which the function operates, that is, third-quarter sales.

When you enter a range name in a formula or function, you can either type the range name (if you remember it), or you can select it from a list in the Paste Name dialog box to insert the range name directly into the formula or function. The Paste Name dialog box appears when you select the Name, Paste command from the Insert pull-down menu. Simply highlight the desired range name and press Enter.

USING THE NAME BOX

The **Name box** is located to the left of the Formula bar (when it is turned on). You may have noticed that the Name box displays the active cell's address. The Name box also displays the name of a selected range, if the range has been assigned a name. It is also possible to use the Name box to assign a name to a range. To do this, use the following procedure:

- Select the range you want to name.
- Either double-click on the active cell address in the Name box, or select the Name box's drop-down list arrow. This highlights the active cell address; a list box also appears if you select the drop-down list arrow.
- Type the name to assign to the range.
- Press Enter.

DEFINE A RANGE NAME

Continue creating your budget worksheet by entering SUM functions with range names that calculate quarterly totals for each revenue item.

1. Make sure Excel is ready.
2. Select the range B6:D6.
3. Select the Insert pull-down menu.
4. Select the Name command.

   A pop-up submenu of options appears. Notice that only two commands, Define and Create, are available for selection.

5. Select the Define command.

   The Define Name dialog box appears.

6. Type **q3sales** and press Enter.

   The range is named. Notice that the range name appears in the Name box because the range is selected.

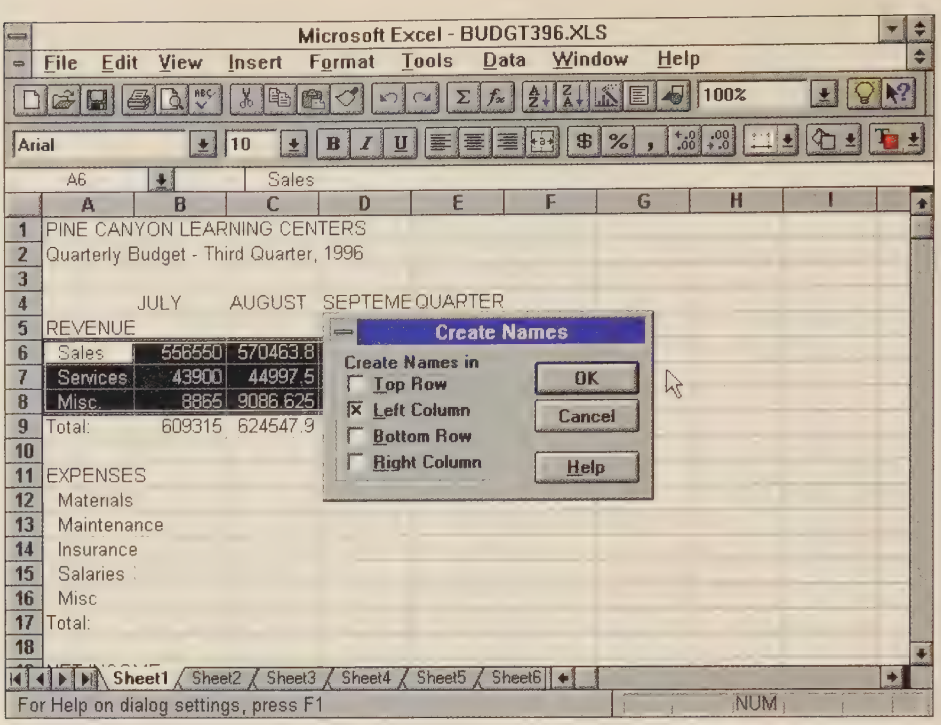
USING LABELS TO CREATE RANGE NAMES

Excel provides another alternative for assigning a name to a range. You can use column or row labels in your worksheet as names for corresponding ranges of data. For example, if you have a column of values labeled "Prices," you can use the Name, Create command from the Insert pull-down menu (or press Ctrl+Shift+F3) to name the range of values "Prices." All you have to do is include the label in the range selection prior to selecting the command. This command displays the Create Names dialog box shown in Figure 2-9. Excel determines the location of the label that will likely be used for the selected range, and an *X* appears in the check box beside that location. You can select the OK command button to accept the location, or modify the location by selecting appropriate check boxes first.

CREATE RANGE NAMES

You will continue building the worksheet by assigning labels as names to selected ranges.

1. Make sure Excel is ready.
2. Select the range A6:D8.
3. Select the Insert pull-down menu.
4. Select the Name command.
5. Select the Create command.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ % ,
Create Names
OK
Cancel
Help
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
NUM

A6 | Sales

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550	570463.8		
7	Services	43900	44997.5		
8	Misc.	8865	9086.625		
9	Total:	609315	624547.9		
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc				
17	Total:				
18					

Create Names in
☐ Top Row
☒ Left Column
☐ Bottom Row
☐ Right Column

For Help on dialog settings, press F1

FIGURE 2-9

The Create Name dialog box appears when you select the Insert, Name, Create command. This dialog box allows you to specify worksheet labels as range names for selected ranges.

The Create Names dialog box appears. Notice that the Left Column option is selected automatically in the Create Names In box.

6. Click on the OK command button.

   Each column A label included in the selected range is assigned as a name for its corresponding row of values.

7. Select the range B7:D7.

   The name for the selected range appears in the Name box.

DELETING RANGE NAMES

Range names associated with a worksheet are stored in the sheet's workbook file. If necessary, you can delete a name from the current worksheet. Use the Name, Define command from the Insert pull-down menu to display the Define Name dialog box. This dialog box contains a list of all the names associated with the active workbook file. To delete a name, simply highlight it in the list and select the Delete button. The name is removed and no longer associated with the current workbook.

DELETE A RANGE NAME

Because you have two names for the same range—Q3SALES and SALES—you will delete one of them.

1. Make sure Excel is ready.

2. Select the Insert pull-down menu.
3. Select the Name command.
4. Select the Define command.

   The Define Name dialog box appears. Notice that all the names associated with the current workbook are listed.

5. Select the name q3sales.
6. Select the Delete button.

   The name is removed from the list.

7. Select the OK command button (or the Close button).

ENTER SUM FUNCTIONS

Continue building the budget worksheet by using SUM functions to calculate quarterly totals for revenue items.

1. Make sure Excel is ready.
2. Select cell E6.
3. Type **=sum(**
4. Select the Name box's drop-down list arrow.

   The list of names associated with the workbook drops down below the Name box, as shown in Figure 2-10.

5. Select the name "Sales" in the list.

   The selected name is inserted into the SUM function's argument in the active cell and on the Formula bar.

6. Type) (a closing parenthesis).
7. Press Enter.

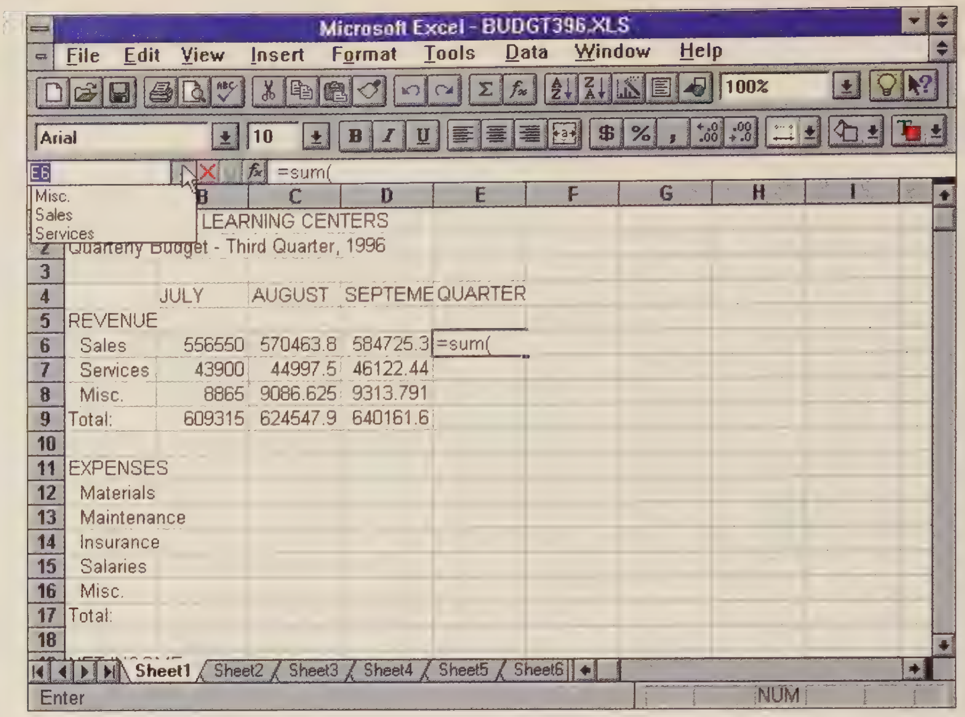
   The SUM function is entered, and a quarterly total for sales revenue is calculated. The result appears in cell E6, and cell E7 is now the active cell. Notice that the SUM function in cell E9 recalculates.

8. Type **=sum(**
9. Select the Insert pull-down menu.
10. Select the Name command.
11. Select the Paste command.

    The Paste Name dialog box appears.

12. Double-click on the name "Services" in the list.

    The name is inserted as the SUM function's argument in the active cell and on the Formula bar.



	A	B	C	D	E
1	LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550	570463.8	584725.3	=sum(
7	Services	43900	44997.5	46122.44	
8	Misc.	8865	9086.625	9313.791	
9	Total:	609315	624547.9	640161.6	
10					
11	EXPENSES				
12	Materials				
13	Maintenance				
14	Insurance				
15	Salaries				
16	Misc.				
17	Total:				
18					

FIGURE 2-10

When you click on the Name box's list arrow, a list box drops down, displaying all the range names associated with the active workbook file.

13. Type) (a closing parenthesis) and press Enter.

    The SUM function is entered, and a quarterly total for services revenue is calculated. The result appears in cell E7, and cell E8 is now the active cell. The SUM function in cell E9 recalculates.

14. Type **=sum(misc.)** and press Enter.

    Quarterly totals for the budget's revenue line items are calculated with SUM functions that operate on named ranges.

15. Select cell A1.

16. Select the Save button.

    The latest changes to the worksheet are saved to disk.

NAMING WORKSHEETS

Just as you can assign names to ranges, you can also assign names to sheets. This is particularly helpful if you have multiple worksheets within a single workbook file. Like range names, descriptive names for sheets, such as "Jan-Budget" or "SALES," are more helpful than "Sheet1" or "Sheet2." The procedure for assigning a name to a worksheet is as follows:

- Make sure the sheet you want to name is active.
- Select the Format pull-down menu.
- Select the Sheet command. A pop-up menu appears.

- Select the Rename command. A Name Sheet dialog box appears.
- Type a name for the sheet, and select the OK command button.

NAME THE BUDGET WORKSHEET

You will assign a name to your budget worksheet.

1. Make sure Excel is ready.
2. Select the Format pull-down menu.
3. Select the Sheet command.

   The Sheet command's pop-up menu appears.

4. Select the Rename command.

   The Rename Sheet dialog box appears.

5. Type **3Q-Budget** and press Enter.

   The sheet is named. Notice that the name replaces "Sheet1" on its tab at the bottom of the worksheet window.

USING ABSOLUTE CELL REFERENCES IN FORMULAS

When you build a variety of worksheets for different purposes, you may encounter situations where you don't want a cell reference to change in a formula you copy to one or more target ranges. That is, you may need each copy of the formula to use the same constant, or fixed, value. In this type of situation Excel allows you to use an **absolute cell reference** in the original formula. Absolute cell references do not change to adjust the referenced cell's location relative to the target cell when you copy the formula.

To enter an absolute cell reference, you must precede the column letter(s) and row number with dollar signs (for example, $B$21) when you are building the formula. There are two ways to do this. You can either type the dollar signs along with the cell reference, or you can type or point to the cell reference and then press F4 to change the relative reference to an absolute reference on the Formula bar.

So that you can see the way in which Excel handles absolute cell references in formulas, you will begin the next guided activity by entering some fixed values in cells that will be referenced in formulas.

ENTER CONSTANT VALUES

Continue building the budget worksheet by entering percentage values that you will reference as constants in formulas that calculate projected expenditures for the period.

1. Make sure Excel is ready.

2. Scroll the worksheet, and select cell B25.
3. Type **19%** and press Enter.

   The value appears as a percentage (19%) in the cell.

4. Type **17%** and press Enter.
5. Type **22%** and press Enter.
6. Type **20%** and press Enter.
7. Type **7%** and press Enter.

   After entering the fixed percentage values, your worksheet should appear like Figure 2-11.

8. Select the Save button.

Now you are ready to enter formulas that will calculate projected monthly expenditures. Each expense will be a percentage of the total projected revenue for the month.

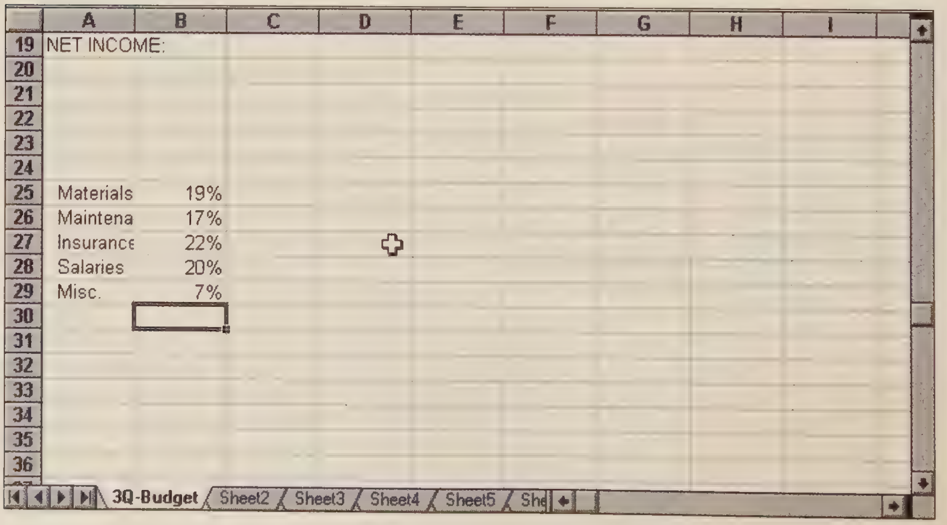
ENTER AN ABSOLUTE CELL REFERENCE

Continue building the budget worksheet by entering a formula with an absolute cell reference to one of the percentage factors you just entered in rows 25 through 29 of the worksheet.

1. Make sure Excel is ready.
2. Scroll the worksheet, and select cell B12.
3. Type =
4. Select cell B9.

   Cell reference B9, which refers to the total projected revenue for July, inserts in the formula.

FIGURE 2-11
Your worksheet should look like this after you enter the range of percentage factors.



	A	B	C	D	E	F	G	H	I
19	NET INCOME:								
20									
21									
22									
23									
24									
25	Materials	19%							
26	Maintena	17%							
27	Insurance	22%							
28	Salaries	20%							
29	Misc.	7%							
30									
31									
32									
33									
34									
35									
36									

5. Type *

   The multiplication operator appears to the right of the relative cell reference B9 in the active cell and on the Formula bar.

6. Press End and then press ↓ to move the cell cursor to cell B25 directly.

   The relative cell reference B25 appears to the right of the multiplication operator in the active cell and on the Formula bar. Notice that the value in cell B25 is surrounded by a flickering dashed box.

7. Press F4.

   Dollar signs appear in front of the column letter B *and the row number* 25 *to change the relative cell reference to an absolute cell reference.*

NOTE *If you pressed F4 more than once, press it again as many times as is necessary until the absolute cell reference $B$25 appears in the formula.*

8. Press Enter.

   The formula is entered and calculates the result 115769.9, which is 19 percent of the total projected revenue for July.

9. Select cell B12, if necessary.
10. Select the Copy button.
11. Select the range C12:D12.
12. Select the Paste button.

    The formula copies to cells C12 and D12. Notice the formula that appears on the Formula bar.

The absolute cell reference $B$25 did not change in the target cell, but the original relative cell reference B9 changed to C9. Thus, the original formula in the source cell (B12) was correctly set up so that the projected total revenue for August (relative cell reference C9) was multiplied by the fixed 19 percent rate (absolute cell reference $B$25) to calculate the projected materials expense item for August.

13. Select cell A1.
14. Select the Save button.

    The latest changes are saved to disk.

USING MIXED CELL REFERENCES IN FORMULAS

Now that you have learned the usefulness of relative and absolute cell references when copying formulas, take a look at another type of cell reference called a **mixed cell reference**. A mixed cell reference is one in which either the column is absolute and the row is relative (for example, $B22), or the column is relative and the row is absolute (for example, B$22).

Understanding the nature of using a mixed cell reference can be difficult. The easiest example to consider, however, is to suppose you need to quickly build a table that shows monthly loan payment options based on various interest rates and principal amounts. An example of this type of table is shown in Figure 2-12. It is very quickly created through the use of the PMT function, one of Excel's financial functions that calculates monthly loan payments. Notice the PMT function on the Formula bar in the figure. Do not worry if you do not understand the meanings of the arguments for this function. Instead consider the use of the two mixed cell references, F$6 and $A13.

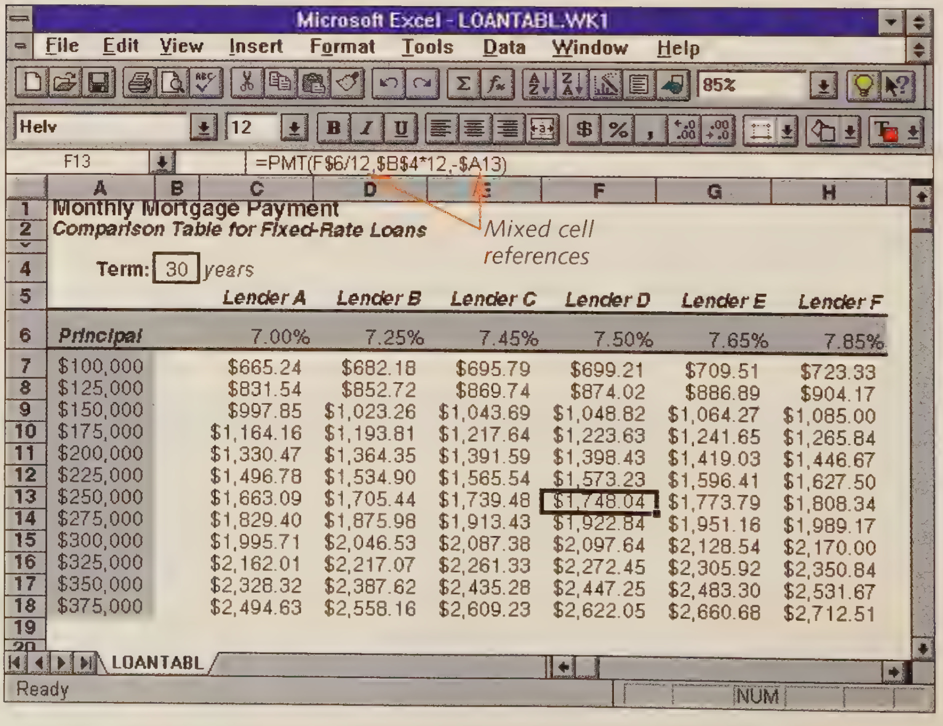
In the example shown in the figure, the first argument (F$6/12) refers to the various lenders' interest rates. Because these values are in row 6, the mixed reference contains an absolute reference to that row, while the column part of the reference remains relative. In this case, you want the column to adjust but the row to remain fixed when the PMT function is copied to the other table cells. For example, when the PMT function is copied to column D, the mixed reference for the interest rate argument changes to D$6. No matter which rows you copy the PMT function to in the table, row 6 remains fixed, and that part of the cell reference does not change in the target cells.

Similarly, the mixed cell reference $A13 in the PMT function fixes the column of principal amounts so that it will not change when the PMT function is copied to the other cells in the table. Because the appropriate principal amount must be factored into the formula, the column is absolute but the row is variable. Thus, in this example, the table could not be built quickly and accurately with the Copy and Paste operation if either of these cell references were completely relative or completely absolute.

If you take a closer look at your budget worksheet, you can see that you will run into a similar problem if you attempt to copy the source formula

FIGURE 2-12

This loan payment option table for various lenders' interest rates and principal amounts is created very quickly by copying a single PMT function that contains mixed cell references in its arguments to the rest of the table's range. The source PMT function appears on the Formula bar.



F13 =PMT(F$6/12,$B$4*12,-$A13)

Monthly Mortgage Payment

Comparison Table for Fixed-Rate Loans

Term: 30 *years*

			A	B	C	D	E	F	G	H
5			*Lender A*	*Lender B*	*Lender C*	*Lender D*	*Lender E*	*Lender F*
6	***Principal***		7.00%	7.25%	7.45%	7.50%	7.65%	7.85%
7	$100,000		$665.24	$682.18	$695.79	$699.21	$709.51	$723.33
8	$125,000		$831.54	$852.72	$869.74	$874.02	$886.89	$904.17
9	$150,000		$997.85	$1,023.26	$1,043.69	$1,048.82	$1,064.27	$1,085.00
10	$175,000		$1,164.16	$1,193.81	$1,217.64	$1,223.63	$1,241.65	$1,265.84
11	$200,000		$1,330.47	$1,364.35	$1,391.59	$1,398.43	$1,419.03	$1,446.67
12	$225,000		$1,496.78	$1,534.90	$1,565.54	$1,573.23	$1,596.41	$1,627.50
13	$250,000		$1,663.09	$1,705.44	$1,739.48	$1,748.04	$1,773.79	$1,808.34
14	$275,000		$1,829.40	$1,875.98	$1,913.43	$1,922.84	$1,951.16	$1,989.17
15	$300,000		$1,995.71	$2,046.53	$2,087.38	$2,097.64	$2,128.54	$2,170.00
16	$325,000		$2,162.01	$2,217.07	$2,261.33	$2,272.45	$2,305.92	$2,350.84
17	$350,000		$2,328.32	$2,387.62	$2,435.28	$2,447.25	$2,483.30	$2,531.67
18	$375,000		$2,494.63	$2,558.16	$2,609.23	$2,622.05	$2,660.68	$2,712.51

for all the expense items. Although copying the formula that calculates projected materials expenses to the columns for August and September works with the absolute cell reference, copying it to the rows for the other expense items will not return accurate results. That is, all the target formulas would contain the absolute cell reference to the 19 percent rate. Instead you must edit the source formula so that this cell reference is mixed—an absolute column B and a relative row number.

CYCLING THROUGH CELL REFERENCES

Use the F4 key to change a relative or absolute cell reference to a mixed cell reference. This key cycles through the four types of cell references when it is pressed repeatedly. Press F4 once to change a relative reference to an absolute reference; press it twice to change to a mixed reference (relative column/absolute row); and press it a third time for the next mixed reference (absolute column/relative row). Press F4 a fourth time to change the reference back to a relative cell reference.

EDITING AN EXISTING CELL ENTRY

As you have seen, a cell entry can be replaced by simply typing and entering a new entry. Sometimes, however, you will need to make modifications to an existing label, value, or formula. As we mentioned in Lesson 1, Excel allows you to do this quickly and easily by simply clicking on the Formula bar to place an insertion bar in the entry for the active cell.

As with editing any text entry in a Windows application, you can highlight a string of characters and type new characters to replace the highlighted string. Or, you can position the insertion bar on any character and insert or delete characters, as necessary. Once you complete your edits, you can click on the Enter box (or press Enter) to store the change.

EDIT A CELL REFERENCE

Continue working with the budget worksheet by editing an existing formula entry to change an absolute cell reference to a mixed cell reference.

1. Make sure Excel is ready.
2. Select cell B12, which contains the July materials expense formula.
3. Click on the absolute cell reference $B$25 on the Formula bar.

   The Formula bar becomes active.
4. Make sure the insertion bar is on any character in the absolute cell reference $B$25.
5. Press F4 twice (or as many times as is necessary to change the cell reference to the mixed cell reference $B25).

6. Press ← as many times as is necessary to move the insertion bar to either character in the relative cell reference B9.
7. Press F4 twice (or as many times as is necessary to change the cell reference to the mixed cell reference B$9).
8. Click on the Formula bar's Enter button.

   The formula is edited so that there are two mixed cell references. Notice that the formula's result is the same.

As you can see, the F4 key can be used to cycle through the different types of cell references when it is pressed repeatedly.

COPY FORMULAS

Continue building the budget worksheet by copying the formulas containing mixed cell references to calculate the rest of the projected expenditures.

1. Make sure Excel is ready.
2. Select cell B12, if necessary.
3. Select the Copy button.
4. Select the range B12:D16.
5. Select the Paste button.

   The formula copies to the target range, and projected expenses for the quarter calculate and display.

6. Select any cell containing a calculated expense, except for the source cell, B12.

   Notice that the mixed cell references refer to the appropriate percentage rate in column B and the appropriate monthly revenue total in row 9.

7. Select the range E12:E16.
8. Select the AutoSum button.

   The SUM functions are entered, and projected quarterly expense totals calculate, as shown in Figure 2-13.

9. Select cell B17, where you will calculate a projected total for July expenses.
10. Select the AutoSum button.

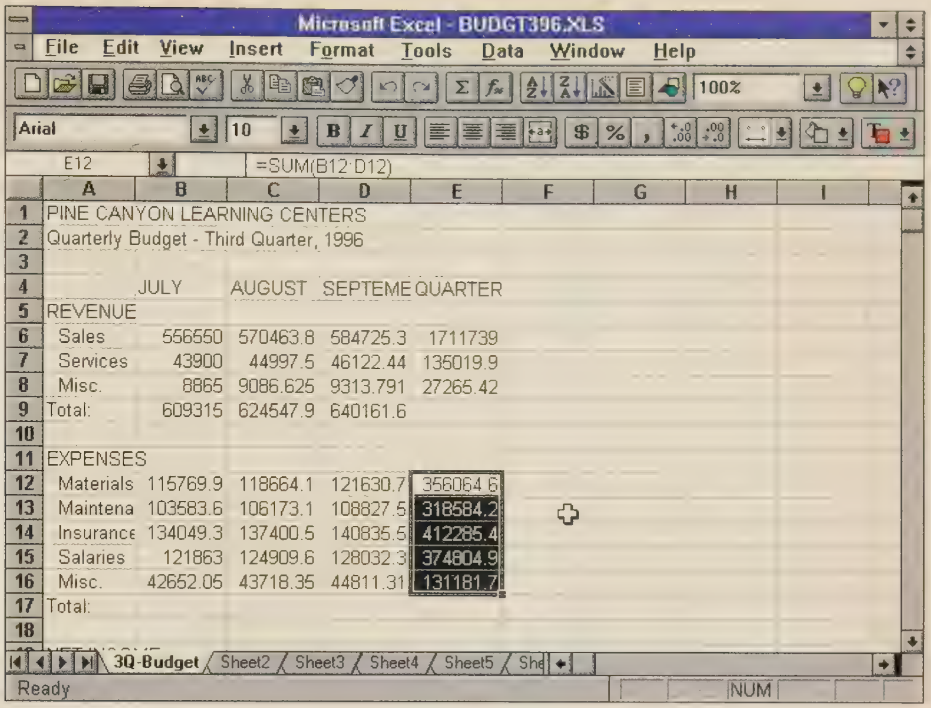
    A SUM function appears in the active cell and on the Formula bar. The range of July expenses is selected automatically by Excel as the function's argument.

11. Select the Formula bar's Enter button.

    The SUM function is entered, and the result appears.

FIGURE 2-13

After you copy the SUM functions, projected quarterly expense totals calculate automatically.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ %
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
She
Ready
NUM

E12 =SUM(B12:D12)

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	556550	570463.8	584725.3	1711739
7	Services	43900	44997.5	46122.44	135019.9
8	Misc.	8865	9086.625	9313.791	27265.42
9	Total:	609315	624547.9	640161.6	
10					
11	EXPENSES				
12	Materials	115769.9	118664.1	121630.7	356064.6
13	Maintena	103583.6	106173.1	108827.5	318584.2
14	Insurance	134049.3	137400.5	140835.5	412285.4
15	Salaries	121863	124909.6	128032.3	374804.9
16	Misc.	42652.05	43718.35	44811.31	131181.7
17	Total:				
18					

12. On your own, copy the SUM function in cell B17 to the range C17:E17 to calculate projected expense totals for August, September, and the quarter period.

    Your worksheet should appear similar to Figure 2-14.

13. Select cell A1.

14. Select the Save button.

    The latest changes are saved to disk.

FORMATTING WORKSHEET DATA

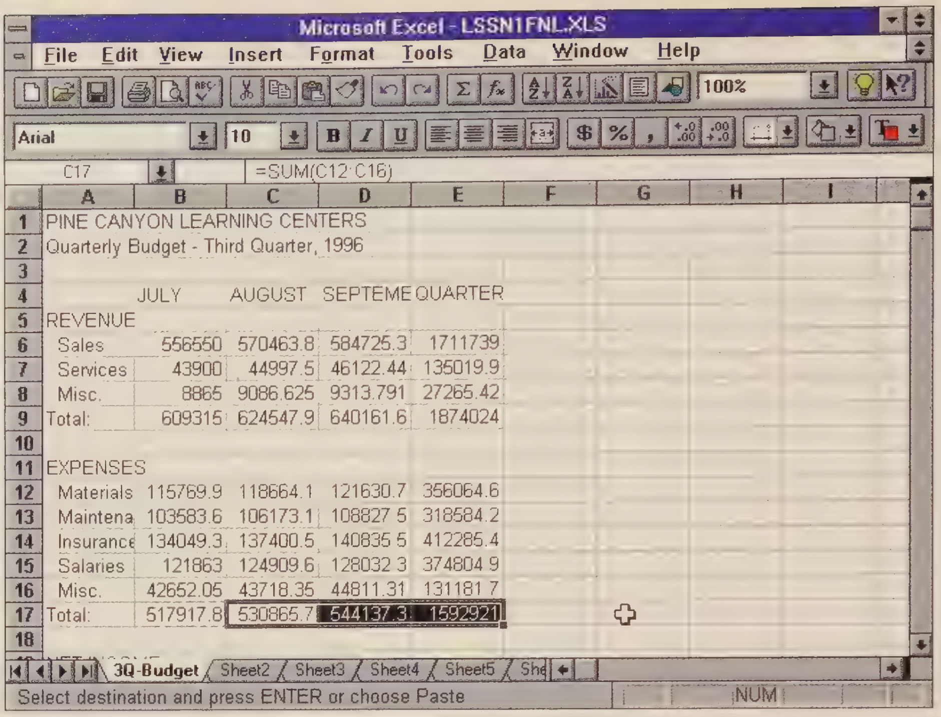
Take a look at your budget worksheet. With most of the formulas in place, you can see the calculated projected revenue for the period, which is based on the assumption that revenues will increase by 2.5 percent each month. You have also produced projected expenditures for the period based on the estimated percentages of income that these items will require.

Now take a look at the worksheet's overall appearance. The worksheet's numbers are difficult to read. The values appear to run together, and some of them have either no decimal places or one, two, or three decimal places. Also, notice that several of the worksheet's labels are truncated because they are too wide to fit in the column's width. The column heading labels have a scattered appearance because the shorter ones display on the left side of the cell and the longer ones run together.

Excel provides many formatting tools that can dramatically improve the appearance of your worksheets on both screen and printed copy.

FIGURE 2-14

After you copy formulas and functions, your worksheet should appear similar to this.



C17 =SUM(C12:C16)

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEMB	QUARTER
5	REVENUE				
6	Sales	556550	570463.8	584725.3	1711739
7	Services	43900	44997.5	46122.44	135019.9
8	Misc.	8865	9086.625	9313.791	27265.42
9	Total:	609315	624547.9	640161.6	1874024
10					
11	EXPENSES				
12	Materials	115769.9	118664.1	121630.7	356064.6
13	Maintena	103583.6	106173.1	108827.5	318584.2
14	Insurance	134049.3	137400.5	140835.5	412285.4
15	Salaries	121863	124909.6	128032.3	374804.9
16	Misc.	42652.05	43718.35	44811.31	131181.7
17	Total:	517917.8	530865.7	544137.3	1592921
18					

Select destination and press ENTER or choose Paste

FORMATTING A RANGE OF VALUES

One way to quickly improve the appearance of worksheet numbers is to assign value formats to their cells. **Value formats** control the manner in which values appear on screen and on paper when you print. However, value formats do not in any way affect the value, formula, or function stored in the cell. There are 24 value format options provided with Excel, and you can customize your own. Table 2-1 lists some of Excel's value format categories, including a positive and negative example of each. Excel recognizes certain symbols as special codes that collectively represent the structure of the value format option.

TABLE 2-1: EXCEL'S VALUE FORMAT CATEGORIES

CATEGORY	NUMBER OF OPTIONS	POSITIVE VALUE	NEGATIVE VALUE
Number	7	##.00	-##.00
Accounting	4	##,###.00	(##,###.00)
Currency	4	$##,###.00	($##,###.00)
Fraction	2	# ??/??	-# ??/??
Scientific	2	0.00E+00	-0.00E+00
Percentage	2	0.00%	-0.00%
Date	5	MM/DD/YY	
Time	8	HH:MM:SS	

Upon installation of the software, Excel is set up so that the General formatting option is in effect. Numbers appear without thousand separators and as many decimal places as will fit across the width of the cell, if necessary. There are two ways you can change value formatting assigned to any size range. You can use the Cells command on the Format pull-down menu (or press Ctrl+1), or you can use one of several value format buttons on the Formatting toolbar. A value or calculated result appears in a selected value format when the value format has been applied to the cell. The general procedure for applying value formats to cells is as follows:

- Select the range of values you want to format.
- Select the Format pull-down menu.
- Select the Cells command.
- If necessary, select a format category.
- Select a format option in the Format Codes list box.

USING FORMATTING TOOLBAR BUTTONS

You can format a range of values with selected format buttons available on the Formatting toolbar. The Formatting toolbar contains a Currency Style button, a Percentage Style button, and a Comma Style button (a common accounting format). To use any of these buttons, simply select the range you want to format, and select a desired button. There are two additional buttons—the Increase Decimal button and the Decrease Decimal button—that allow you to, respectively, increase or decrease the number of decimal places for selected values.

FORMAT VALUE RANGES

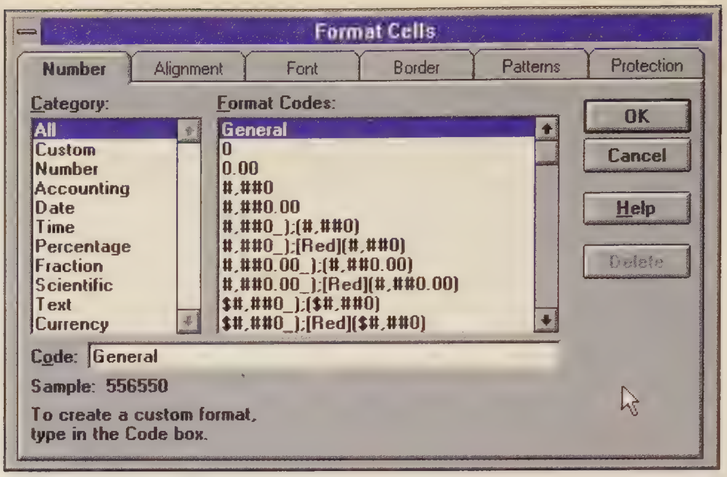
You will begin enhancing your budget worksheet by formatting selected value ranges.

1. Make sure Excel is ready.
2. Select the range B6:E17.
3. Select the Format pull-down menu.
4. Select the Cells command.

   The Format Cells dialog box appears, as shown in Figure 2-15.
5. If necessary, select the Number tab.
6. If necessary, select the Accounting category option.

   A set of format code options appears in the list.
7. Select the fourth option listed to highlight it—the one that begins with the codes: _(*#,###0.00_); . . .

FIGURE 2-15
The Format Cells dialog box allows you to select from a wide variety of value format options.



Category:
- All
- Custom
- Number
- Accounting
- Date
- Time
- Percentage
- Fraction
- Scientific
- Text
- Currency

Format Codes:
```
General
0
0.00
#,##0
#,##0.00
#,##0_);(#,##0)
#,##0_);[Red](#,##0)
#,##0.00_);(#,##0.00)
#,##0.00_);[Red](#,##0.00)
$#,##0_);($#,##0)
$#,##0_);[Red]($#,##0)
```

Code: General

Sample: 556550

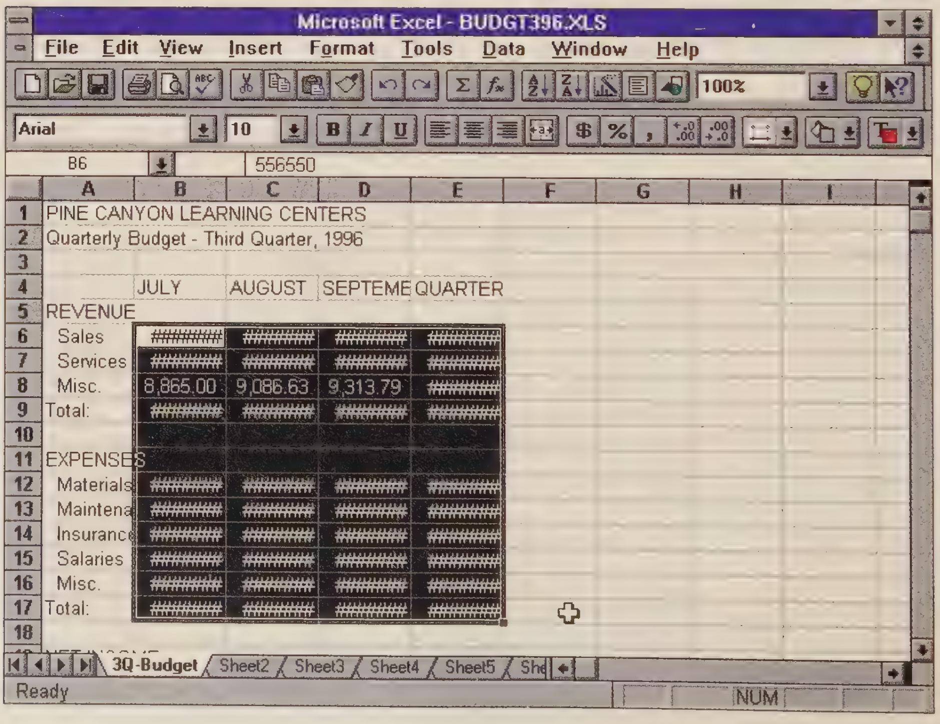
To create a custom format,
type in the Code box.

8. Select the OK command button.

The selected value range is formatted with comma separators, decimal points, and two decimal places. Notice that most of the values have been replaced by a series of pound signs (########), as shown in Figure 2-16.

The strings of pound signs (########) in worksheet cells indicate that the columns are not wide enough to display the values along with the comma separator(s), decimal points, and decimal place digits. You will learn how to restore the display of these formatted values shortly. For now, practice formatting a range of values by applying formatting to the range of expense percentage constants.

FIGURE 2-16
When you apply value formats to worksheet ranges, some values may display as strings of pound signs because the columns are not wide enough to accommodate the values' numbers and formatting characters.



B6 556550

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEME	QUARTER
5	REVENUE				
6	Sales	########	########	########	########
7	Services	########	########	########	########
8	Misc.	8,865.00	9,086.63	9,313.79	########
9	Total:	########	########	########	########
10					
11	EXPENSES				
12	Materials	########	########	########	########
13	Maintena	########	########	########	########
14	Insurance	########	########	########	########
15	Salaries	########	########	########	########
16	Misc.	########	########	########	########
17	Total:	########	########	########	########
18					

9. Scroll the worksheet, and select the range B25:B29.
10. Click on the Increase Decimal button.

    The range of percentage factors is formatted with a single decimal place digit.
11. Select cell A1.
12. Select the Save button.

    The latest changes are saved to disk.

Before continuing with formatting values, let's see how to adjust column widths so we can see the values again.

CHANGING COLUMN WIDTHS

As you can see, changing column widths is often necessary to fully display values in formatted cells, fully display truncated labels, and improve the overall appearance of the worksheet. Excel provides a variety of ways to adjust column widths for all or selected worksheet columns.

CHANGING STANDARD COLUMN WIDTHS

Although it's possible in Excel's graphical environment to use the mouse to select and adjust the width of all columns in a sheet, Excel provides a command that can do this much more efficiently. The Standard Width command on the Column pop-up menu displays a dialog box where you can enter a width in character units for every column in the worksheet. The default standard width depends, in part, on the current font setting and other settings particular to individual systems. The procedure for changing standard column width is as follows:

- Select the Format pull-down menu.
- Select the Column command. A pop-up menu appears.
- Select the Standard Width command.
- Enter a width in character units between 0 and 255.
- Select the OK command button.

CHANGING THE WIDTH OF A SINGLE COLUMN

You can change the width of a single column to override the standard column width. Although you can use the Column command on the Format pull-down menu to adjust a single column's width, using the mouse is much easier. Simply position the mouse cursor over the column's letter on the worksheet frame, and click on it to select the column. Then click the right mouse button to display the pop-up menu, and select the Column Width command. In this dialog box, which appears very similar to the Standard Width dialog box, you can enter a new width in character units.

Alternatively, it's even quicker to make the adjustment visually by positioning the mouse cursor over the right boundary of the column on the worksheet frame. When you have the mouse cursor in the proper position, it changes shape, becoming a dark vertical bar intersected by a horizontal double arrow. Then all you need to do is drag the border left or right to, respectively, decrease or increase the column's width.

CHANGING THE WIDTHS OF A RANGE OF COLUMNS

Adjusting the widths uniformly for several contiguous columns can be handled in much the same way as just described for a single column. Just select the number of columns you want to adjust, and then drag the right border of any one of the selected columns. All of the selected columns adjust to the width you set for the column you are adjusting. You can also make the adjustment manually by entering a width between 0 and 255 in the Column Width dialog box.

SETTING A COLUMN FOR AUTOMATIC ADJUSTMENT

The Column pop-up menu, which you access through the Format pull-down menu, includes the AutoFit Selection command. This command adjusts the column's width automatically to fit the widest entry in the selected range. Therefore, you must use this command after you have entered the data you want to fit in the column. If you change the data, or enter data in another cell in the column that is too wide to fit the column's current width, you must select the AutoFit Selection command again.

CHANGE COLUMN WIDTHS

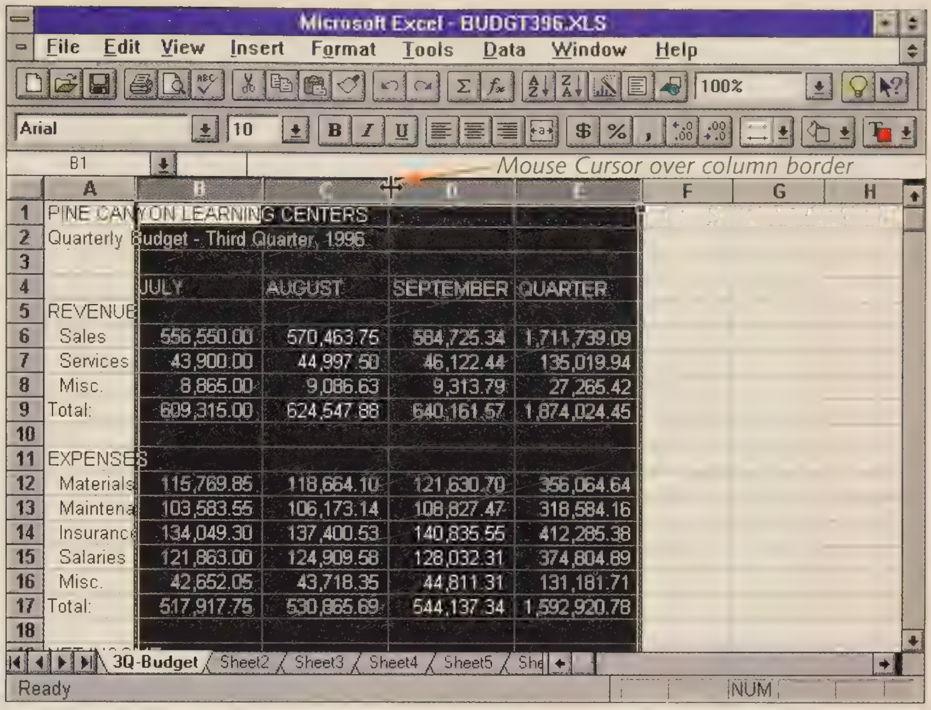
Continue improving the appearance of your budget worksheet by adjusting the widths of several columns.

1. Make sure Excel is ready.
2. Position the mouse cursor over the column B heading on the worksheet frame.
3. Press the left mouse button, drag the highlight to the right to select the range of columns B through E, and then release the mouse button.
4. Position the mouse cursor over the right border for column head C on the worksheet frame.

   The mouse cursor changes to a double arrowhead.

5. Press and hold the left mouse button, drag the border to the right until the Name box's indicator displays 11.8 (approximately), and then release the mouse button.

   If your adjustment to the columns' widths was sufficient, your worksheet should appear similar to Figure 2-17.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B1
Mouse Cursor over column border
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
Ready
NUM

	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEMBER	QUARTER
5	REVENUE				
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09
7	Services	43,900.00	44,997.50	46,122.44	135,019.94
8	Misc.	8,865.00	9,086.63	9,313.79	27,265.42
9	Total:	609,315.00	624,547.88	640,161.57	1,874,024.45
10					
11	EXPENSES				
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64
13	Maintena	103,583.55	106,173.14	108,827.47	318,584.16
14	Insuranc	134,049.30	137,400.53	140,835.55	412,285.38
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71
17	Total:	517,917.75	530,865.69	544,137.34	1,592,920.78
18					

FIGURE 2-17

After adjusting column widths, your worksheet should look similar to this.

Now you will make column A a little wider than the rest.

6. Position the mouse cursor over column A's right border on the worksheet frame.

   The mouse cursor changes to a double arrowhead.

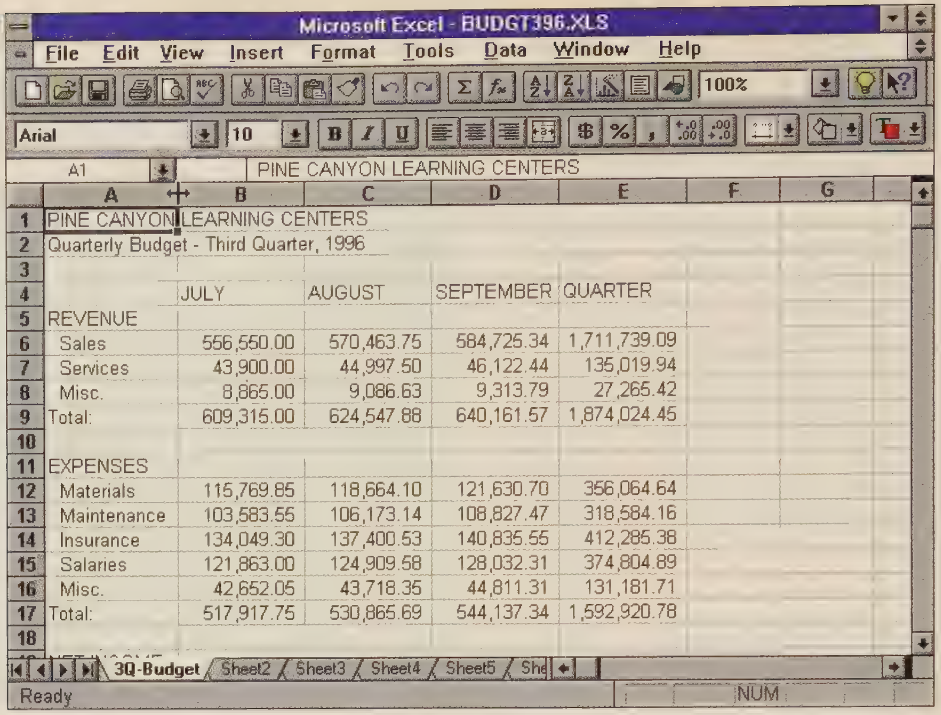
7. Press and hold the left mouse button.

8. Drag the border right until the width indicator in the Name box displays 12.5 or thereabouts.

   After adjusting column widths, your worksheet should look similar to Figure 2-18.

SELECTING NONADJACENT RANGES

A nice, convenient feature that Excel provides is the ability to select two or more nonadjacent ranges of data. This feature allows you to apply formatting simultaneously to ranges in different areas of the worksheet, as shown in Figure 2-19. To select nonadjacent ranges, select the first range with the mouse or keyboard in the usual manner. Then position the mouse cursor over the first cell in the next, nonadjacent range you want to select. Press and hold Ctrl, select the range, and then release Ctrl.



	A	B	C	D	E	F	G
1	PINE CANYON LEARNING CENTERS						
2	Quarterly Budget - Third Quarter, 1996						
3							
4		JULY	AUGUST	SEPTEMBER	QUARTER		
5	REVENUE						
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09		
7	Services	43,900.00	44,997.50	46,122.44	135,019.94		
8	Misc.	8,865.00	9,086.63	9,313.79	27,265.42		
9	Total:	609,315.00	624,547.88	640,161.57	1,874,024.45		
10							
11	EXPENSES						
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64		
13	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16		
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38		
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89		
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71		
17	Total:	517,917.75	530,865.69	544,137.34	1,592,920.78		
18							

FIGURE 2-18

After adjusting the widths of additional columns, your worksheet should look similar to this.

FORMAT ADDITIONAL RANGES

Now you will continue enhancing the budget by formatting some nonadjacent ranges of values as currency.

1. Make sure Excel is ready.
2. Select the range B9:E9.
3. Position the mouse cursor over cell B17. (Do *not* click a mouse button.)
4. Press and hold Ctrl.
5. Select the range B17:E17 (while holding down Ctrl).

   The range of revenue totals (B9:E9) and the nonadjacent range of expense totals (B17:E17) are selected.

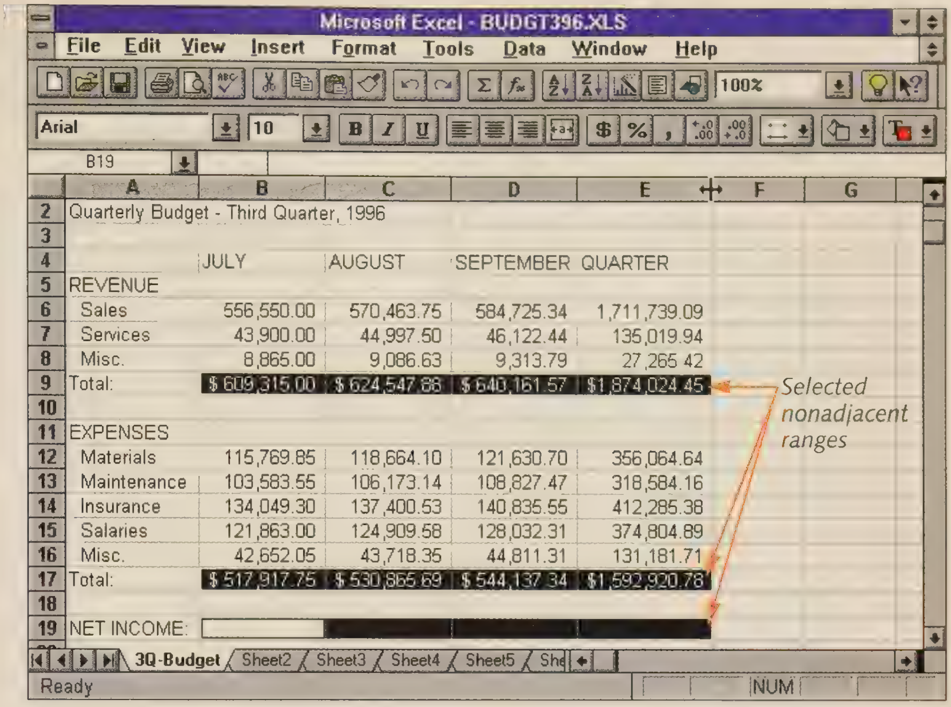
6. Scroll the worksheet down, if necessary, and position the mouse cursor over cell B19.
7. Press and hold Ctrl.
8. Select the range B19:E19 (while holding down Ctrl). Be sure to continue to hold down Ctrl, even if you need to scroll the worksheet with the mouse and vertical scroll bar.

   The nonadjacent, blank range reserved for net income calculations (B19:E19) is also selected.

9. Select the Currency Style button.

FIGURE 2-19

Excel allows you to use the mouse and Ctrl *to select nonadjacent ranges.*



	A	B	C	D	E
2	Quarterly Budget - Third Quarter, 1996				
3					
4		JULY	AUGUST	SEPTEMBER	QUARTER
5	REVENUE				
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09
7	Services	43,900.00	44,997.50	46,122.44	135,019.94
8	Misc.	8,865.00	9,086.63	9,313.79	27,265.42
9	Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$1,874,024.45
10					
11	EXPENSES				
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64
13	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71
17	Total:	$ 517,917.75	$ 530,865.69	$ 544,137.34	$1,592,920.78
18					
19	NET INCOME:				

Selected nonadjacent ranges

The selected ranges are formatted with dollar signs, comma separators, decimal points, and two decimal place digits.

10. If the expense total for the quarter in column E, or any other values, appears as a string of pound signs (#), adjust column widths, as necessary, to display the values.

    Your worksheet should appear similar to Figure 2-19.

Although there are no values in the Net Income row (B19:E19), you will see shortly that the cells will display values, or formula results, as currency.

11. Select cell A1.
12. Select the Save button.

    The latest changes are saved to disk.

CREATE ADDITIONAL FORMULAS

Now's a good time to enter formulas that calculate the projected net income for each month and the quarter period.

1. Make sure Excel is ready.
2. Scroll the worksheet, if necessary, and select cell B19.
3. Type =
4. Select cell B9, which contains total revenue for July.

5. Type - (a hyphen).

   The minus sign operator appears to the right of the relative cell reference B9 in the active cell and on the Formula bar.

6. Select cell B17, which contains total expenses for July.
7. Select the Formula bar's Enter button (or press Enter).

   The formula is entered, and the result appears in currency format in cell B19.

8. Make sure cell B19 is still selected.
9. Select the Copy button.
10. Select the range C19:E19.
11. Select the Paste button.

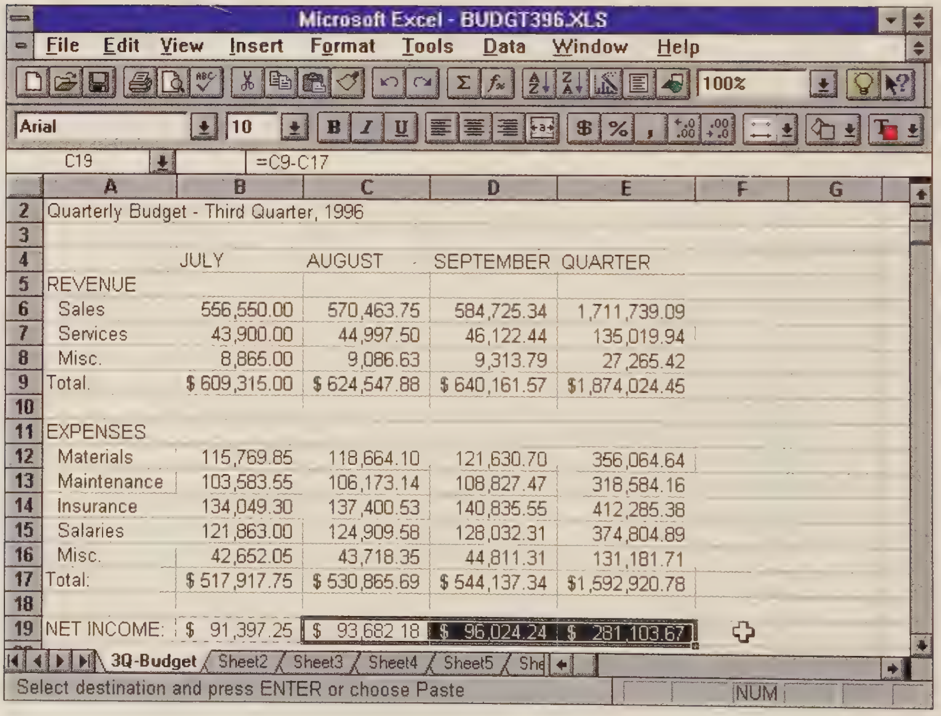
    The source formula copies to the other net income cells in the range, calculating the projected net income for August, September, and the quarter period. Your worksheet should appear similar to Figure 2-20.

12. Select cell A1.
13. Select the Save button.

    The latest changes are saved to disk.

FIGURE 2-20

After you enter and copy the net income formulas, your worksheet should appear similar to this.



C19 =C9-C17

	A	B	C	D	E	F	G
2	Quarterly Budget - Third Quarter, 1996						
3							
4		JULY	AUGUST	SEPTEMBER	QUARTER		
5	REVENUE						
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09		
7	Services	43,900.00	44,997.50	46,122.44	135,019.94		
8	Misc.	8,865.00	9,086.63	9,313.79	27,265.42		
9	Total.	$ 609,315.00	$ 624,547.88	$ 640,161.57	$1,874,024.45		
10							
11	EXPENSES						
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64		
13	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16		
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38		
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89		
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71		
17	Total:	$ 517,917.75	$ 530,865.69	$ 544,137.34	$1,592,920.78		
18							
19	NET INCOME:	$ 91,397.25	$ 93,682.18	$ 96,024.24	$ 281,103.67		

Select destination and press ENTER or choose Paste

ALIGNING A RANGE OF LABELS

The budget's appearance has improved significantly; however, the alignment of the column labels in the wider columns could use some improvement. Excel provides several ways for you to format cells containing labels to adjust the alignment of label text. The quickest way to align labels in a selected range is to use one of three text alignment buttons that are available on the Formatting toolbar. If you have used a word processing application in the Windows environment, then these buttons are likely familiar to you. From left to right these buttons align text within cells left, center, and right.

The default alignment for labels is left alignment. Another way you can adjust the alignment of labels is to use the Cells command on the Format pull-down menu. The general procedure is as follows:

- Select the range of labels you want to format.
- Select the Format pull-down menu.
- Select the Cells command. The Format Cells dialog box appears.
- Click on the Alignment index tab.
- Click on the Left, Center, Right, or Justify radio button in the Horizontal box.
- Select the OK command button.

You can also perform this operation without selecting the Format pull-down menu. After the range of labels is selected, position the mouse cursor over the selected range, and click the right mouse button. A pop-up menu appears with several formatting options. Click on the Format Cells command to display the Format Cells dialog box directly.

FORMAT A RANGE OF LABELS

Continue enhancing your budget worksheet by practicing with some of the alignment format options for labels.

1. Make sure Excel is ready.
2. Select the range of column labels (B4:E4).
3. Select the Format pull-down menu.
4. Select the Cells command.

   The Format Cells dialog box appears.
5. Select the Alignment tab.

   A set of Alignment format options becomes available.
6. Select the Right radio button in the Horizontal box.

7. Select the OK command button.

   The labels in the selected range are right-aligned in their cells.

Now go ahead and see how another alignment option looks.

8. Make sure the range of column labels (B4:E4) is still selected.
9. Select the Center button.

   The column labels in your worksheet should appear centered within their cells.

10. Select cell A9.
11. Press and hold down [Ctrl].
12. Select cell A17 (while holding down [Ctrl]).

    Nonadjacent cells A9 and A17 are selected.

13. Press and hold down [Ctrl].
14. Scroll the worksheet, and select cell A19.
15. Release [Ctrl], if necessary.

    Nonadjacent cells A9, A17, and A19 are selected.

16. Select the Align Right button.

    The labels right-align within the selected cells.

17. Select cell A1.
18. Select the Save button.

    The latest changes are saved to disk.

PRINT THE WORKSHEET RANGE

You will complete this lesson's guided activities by printing your budget worksheet data.

1. Make sure all changes have been saved.
2. Make sure your printer is turned on, has paper, and is ready to print.
3. Select the Print button.

   The active sheet's data should begin printing. If it does not, check the printer, its connections, and paper.

4. If you are ready to exit Excel, select the Exit command on the File pull-down menu (or double-click the Control-menu box). If you want to continue with this chapter's application projects, select the Close command on the File pull-down menu (or double-click the worksheet window's Control-menu box).

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Cell referencing		F4	
Open file	File, Open	Alt+f, o *or* Ctrl+o	📂
Copy data	Edit, Copy	Alt+e, c *or* Ctrl+c	📄
Paste (copied) data	Edit, Paste	Alt+e, p *or* Ctrl+v	📋
Define range name	Insert, Name, Define	Alt+i, n, d *or* Ctrl+F3	
Create name with label	Insert, Name, Create	Alt+i, n, c *or* Ctrl+Shift+F3	
Insert range name	Insert, Name, Paste	Alt+i, n, p	
Name sheet	Format, Sheet, Rename	Alt+o, h, r	
Format value range	Format, Cells	Alt+o, e *or* Ctrl+l	$ % , +.0 .00 .00 +.0
Change standard column width	Format, Column, Standard Width	Alt+o, c, s	
Adjust column width	Format, Column, Width	Alt+o, c, w	
Adjust column width automatically	Format, Column, AutoFit Selection	Alt+o, c, a	
Format label range	Format, Cells, Alignment	Alt+o, e	≡ ≡ ≡
Reverse operation	Edit, Undo "(operation)"	Alt+e, u *or* Ctrl+z	↶

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. buffer	**a.** Cell address in formula that contains both relative reference to column or row and absolute reference to column or row
2. function	**b.** Meaningful name assigned to range
3. range name	**c.** Cell, range, formula, or any other information required for function's calculation
4. relative cell reference	**d.** Options that affect display of values and formula results
5. source cell	**e.** Small portion of memory for temporary storage
6. mixed cell reference	**f.** Cell address in formula that represents location of fixed value
7. argument	**g.** Cell address in formula that represents specific location in relation to formula's cell
8. absolute cell reference	**h.** Location of duplicated entry
9. target cell	**i.** Built-in formula that performs specific calculation
10. value formats	**j.** Cell that stores original formula

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. How many workbook files does Excel allow you to have open at one time?

- **a.** Two
- **b.** Ten
- **c.** As many as your system's memory allows
- **d.** As many as you can view on screen at one time

2. When you select the Copy command (or button), what command (or button) do you use next to place the data in the target range?

- **a.** Save
- **b.** Print
- **c.** Cut
- **d.** Paste

3. The command (or button) to reverse the last action performed is called:

a. Undo

b. Save As

c. Cut

d. Redo

4. If a formula in cell DZ180 contains the relative cell reference Y240, what will the relative cell reference become if the formula is copied to cell EJ190?

a. Y250

b. A1

c. AI250

d. DZ180

5. Excel allows you to enter __ arguments in a mathematical function.

a. Up to 3

b. Up to 10

c. Up to 30

d. As many as memory will allow

6. Which of the following is *not* a valid range name?

a. Merchandise

b. ?REQUEST

c. \q4costs

d. _96-Receipts

7. To ensure that the value in cell IL69—which is a factor in a source formula—is a factor in any target formula, no matter where you copy it, you need to make this cell's reference a/an ________ cell reference in the source formula.

a. Relative

b. Mixed (column IL absolute)

c. Mixed (column IL relative)

d. Absolute

8. The Comma Style button on the Formatting toolbar formats values with:

a. Comma separators, a decimal point, and two decimal place digits

b. A dollar sign, a decimal point, and two decimal place digits

- **c.** Two integer digits, a decimal point, one decimal place digit, and a percent sign (%)
- **d.** Comma separators only

9. To select nonadjacent ranges, you need to use which keyboard key in addition to the mouse?

- **a.** Alt
- **b.** Ctrl
- **c.** Shift
- **d.** Ctrl+Alt+Del

10. If you widen a column, any right-aligned label in that column will:

- **a.** Align left
- **b.** Align right
- **c.** Center
- **d.** Delete

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Suppose you teach an elementary math class and you want to use spreadsheet software to generate a multiplication table showing factors from 0 to 100. Briefly explain how you would accomplish this task. How many formulas would you need to create? Can the Copy command help you with this task? If so, what type of cell references would you use?

2. In a spreadsheet that tracks sales of several products over 12 months there are SUM functions in the range D20:O20. These SUM functions total all sales for each month. Suppose you want to calculate the difference in sales totals between each pair of successive months (for example, the difference between total sales in March and total sales in February). Write the formula you could create to calculate one difference. If the cell where you enter the formula is formatted to display the result in Comma Style format, describe how a negative result would display.

3. List the options Excel makes available to you for adjusting the widths of one or more columns. Which do you think is the most efficient? Why?

4. Suppose you want to apply the same alignment format to a column of row labels and a row of column headings. Is it possible to carry out this task in a single operation? If so, describe what you need to do first.

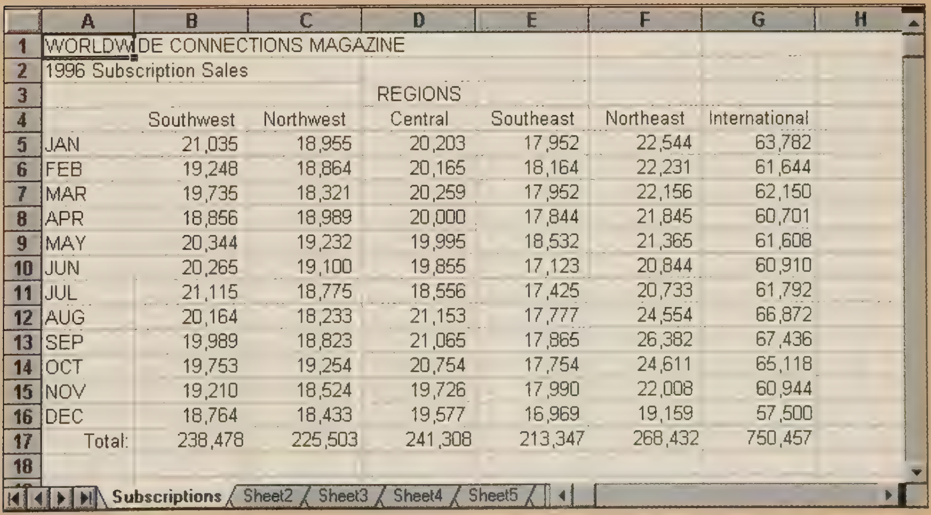
5. Briefly describe relative, absolute, and mixed cell references. Describe situations in which each is appropriate in formulas.

APPLICATION PROJECTS

To complete the following projects, load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary. Insert your work disk or Student Data Disk into drive A (or B). Change the working directory to the drive containing your work disk or Student Data Disk, if necessary.

1. Do the following to modify the sales tracking worksheet shown in Figure 2-21.
   - **a.** Open the workbook file SUBSALES.XLS stored on your work disk. If you did not complete application project 1 in Lesson 1, either go back and do it now, or open the file AP1_1STW.XLS stored on your copy of the Student Data Disk.
   - **b.** Edit the label in cell A2, as shown, and add the column of data for international subscriptions. Enter the label shown in cell A17.
   - **c.** Enter a SUM function and use the Copy command to calculate totals in row 17.
   - **d.** Format all values in the worksheet with the Comma style format and no decimal places.
   - **e.** Assign range names to each region's column of values. Use descriptive range names (for example, SE_SUBS), or use the column heading labels to create range names. Rename Sheet1, as shown.
   - **f.** Widen columns B–G so they approximate the widths shown in the figure.
   - **g.** Center align the label text in rows 3 and 4, and right align the label in cell A17.
   - **h.** Save the changes to a workbook file named SUBSALS2.XLS. Print the entire range of data. Close the workbook file.

FIGURE 2-21
Create this worksheet for application project 1.



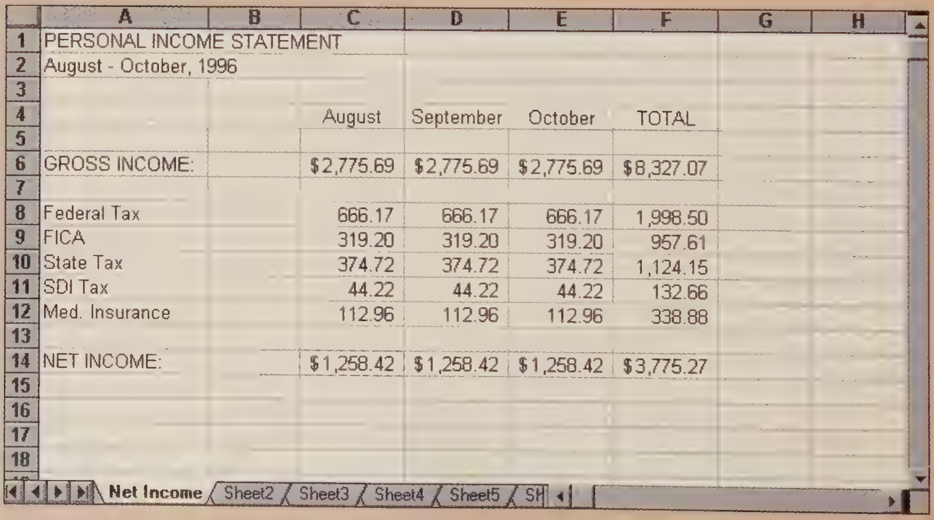
	A	B	C	D	E	F	G	H
1	WORLDWIDE CONNECTIONS MAGAZINE							
2	1996 Subscription Sales							
3				REGIONS				
4		Southwest	Northwest	Central	Southeast	Northeast	International	
5	JAN	21,035	18,955	20,203	17,952	22,544	63,782	
6	FEB	19,248	18,864	20,165	18,164	22,231	61,644	
7	MAR	19,735	18,321	20,259	17,952	22,156	62,150	
8	APR	18,856	18,989	20,000	17,844	21,845	60,701	
9	MAY	20,344	19,232	19,995	18,532	21,365	61,608	
10	JUN	20,265	19,100	19,855	17,123	20,844	60,910	
11	JUL	21,115	18,775	18,556	17,425	20,733	61,792	
12	AUG	20,164	18,233	21,153	17,777	24,554	66,872	
13	SEP	19,989	18,823	21,065	17,865	26,382	67,436	
14	OCT	19,753	19,254	20,754	17,754	24,611	65,118	
15	NOV	19,210	18,524	19,726	17,990	22,008	60,944	
16	DEC	18,764	18,433	19,577	16,969	19,159	57,500	
17	Total:	238,478	225,503	241,308	213,347	268,432	750,457	
18								

2. Do the following to modify the personal net income statement worksheet shown in Figure 2-22.
   - **a.** Open the file NETINCOM.XLS. If you did not complete application project 2 in Lesson 1, either go back and do it now, or open the workbook file AP1_2NIS.XLS stored on your copy of the Student Data Disk.
   - **b.** Edit the labels as shown in the figure.
   - **c.** Format the gross income and net income value ranges as Currency with two decimal places. Format the range of deduction amounts with the Comma Style format with two decimal places.
   - **d.** Edit the net income formulas to include a SUM function that sums each month's deductions.
   - **e.** Widen column A to approximately 16 characters and columns C, D, E, and F to approximately 9.5 characters.
   - **f.** Rename Sheet1 as shown.
   - **g.** Save the changes to a workbook file named NETINCM2.XLS, and print the range of data. Close the workbook file.

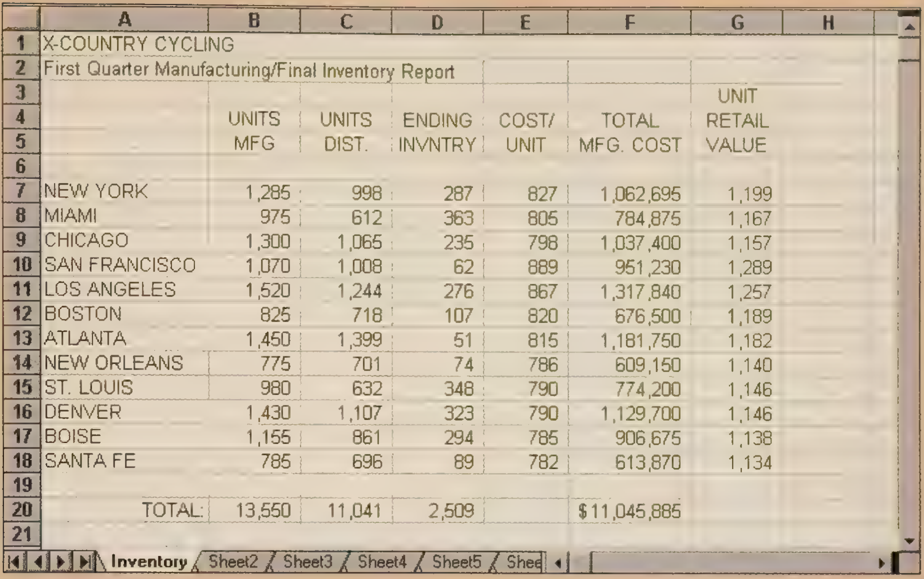
3. Do the following to modify the closing inventory-report worksheet shown in Figure 2-23.
   - **a.** Open the file INVREPRT.XLS. If you did not complete application project 3 in Lesson 1, either go back and do it now, or open the workbook file AP1_3CIR.XLS on your copy of the Student Data Disk.
   - **b.** Add labels for the seven additional plant locations (rows 12–18), and edit the column heading labels so they appear as shown (in rows 3–5). Be sure to enter the right-aligned label shown in cell A20.

FIGURE 2-22

Create this worksheet for application project 2.



	A	B	C	D	E	F	G	H
1	PERSONAL INCOME STATEMENT							
2	August - October, 1996							
3								
4			August	September	October	TOTAL		
5								
6	GROSS INCOME:		$2,775.69	$2,775.69	$2,775.69	$8,327.07		
7								
8	Federal Tax		666.17	666.17	666.17	1,998.50		
9	FICA		319.20	319.20	319.20	957.61		
10	State Tax		374.72	374.72	374.72	1,124.15		
11	SDI Tax		44.22	44.22	44.22	132.66		
12	Med. Insurance		112.96	112.96	112.96	338.88		
13								
14	NET INCOME:		$1,258.42	$1,258.42	$1,258.42	$3,775.27		
15								
16								
17								
18								



	A	B	C	D	E	F	G	H
1	X-COUNTRY CYCLING							
2	First Quarter Manufacturing/Final Inventory Report							
3							UNIT	
4		UNITS	UNITS	ENDING	COST/	TOTAL	RETAIL	
5		MFG	DIST.	INVNTRY	UNIT	MFG. COST	VALUE	
6								
7	NEW YORK	1,285	998	287	827	1,062,695	1,199	
8	MIAMI	975	612	363	805	784,875	1,167	
9	CHICAGO	1,300	1,065	235	798	1,037,400	1,157	
10	SAN FRANCISCO	1,070	1,008	62	889	951,230	1,289	
11	LOS ANGELES	1,520	1,244	276	867	1,317,840	1,257	
12	BOSTON	825	718	107	820	676,500	1,189	
13	ATLANTA	1,450	1,399	51	815	1,181,750	1,182	
14	NEW ORLEANS	775	701	74	786	609,150	1,140	
15	ST. LOUIS	980	632	348	790	774,200	1,146	
16	DENVER	1,430	1,107	323	790	1,129,700	1,146	
17	BOISE	1,155	861	294	785	906,675	1,138	
18	SANTA FE	785	696	89	782	613,870	1,134	
19								
20	TOTAL:	13,550	11,041	2,509		$11,045,885		
21								

FIGURE 2-23

Create this worksheet for application project 3.

c. Enter the values for units manufactured, units distributed, and unit cost for the additional plants, as shown in rows 12–18.

d. Copy the formula in cell D7 to the range D12:D18 and the formula in cell F7 to the range F12:F18 to calculate ending inventory and total manufacturing costs for the additional plants.

e. Recalculate the retail value/unit in column G for each plant. Assume a companywide markup of 45 percent for all units manufactured in each plant.

f. Enter SUM functions in row 20 to calculate totals for columns B, C, D, and F.

g. Format all values with the Comma style format and no decimal places. Format the result in cell F20 with the Currency format and no decimal places.

h. Adjust the widths of columns as shown. Rename Sheet1 as shown.

i. Save the changes to a workbook file named INVRPRT2.XLS, and print the entire range of data.

j. Close the workbook file.

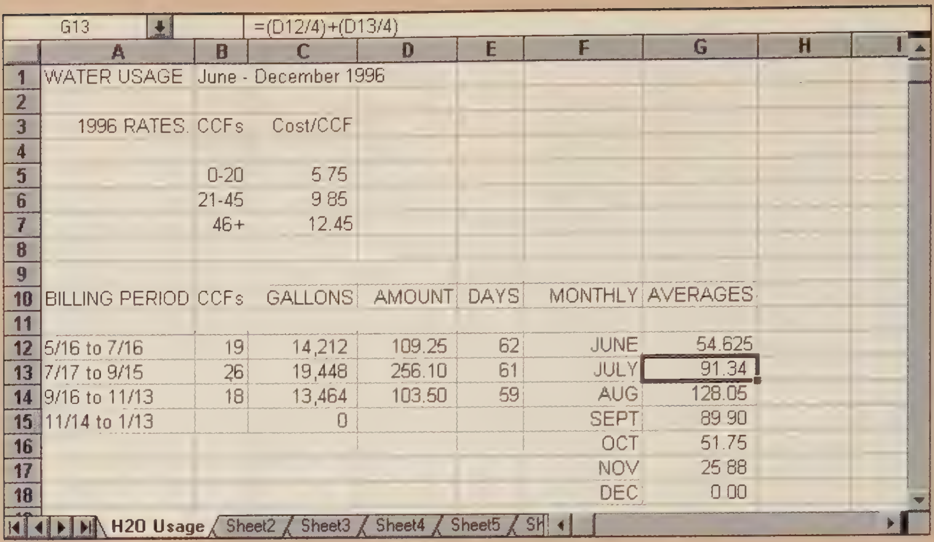
4. Do the following to create the water-usage worksheet shown in Figure 2-24.

   a. Enter the title and column heading labels as shown.

   b. Enter and right-align the number labels in the range B5:B7, and enter the date labels in the range A12:A15. Right-align the label ranges in rows 3 and 10, except for the label in cell A10 and in column F.

FIGURE 2-24

Create this worksheet for application project 4.



G13 =(D12/4)+(D13/4)

	A	B	C	D	E	F	G	H
1	WATER USAGE	June - December 1996						
2								
3	1996 RATES.	CCFs	Cost/CCF					
4								
5		0-20	5.75					
6		21-45	9.85					
7		46+	12.45					
8								
9								
10	BILLING PERIOD	CCFs	GALLONS	AMOUNT	DAYS	MONTHLY	AVERAGES	
11								
12	5/16 to 7/16	19	14,212	109.25	62	JUNE	54.625	
13	7/17 to 9/15	26	19,448	256.10	61	JULY	91.34	
14	9/16 to 11/13	18	13,464	103.50	59	AUG	128.05	
15	11/14 to 1/13		0			SEPT	89.90	
16						OCT	51.75	
17						NOV	25.88	
18						DEC	0.00	

c. Enter the values shown in the range C5:C7.

d. Enter the CCF (100 cubic feet) values in column B and the values for billing days in column E, as shown.

e. Adjust the widths of columns as shown. Rename Sheet1 as shown.

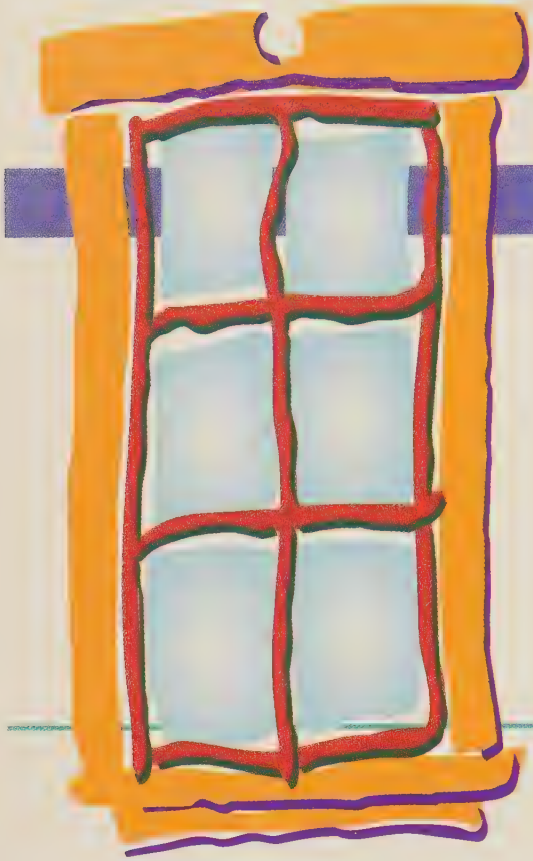
f. Enter formulas in column C that calculate a CCF-to-gallon conversion. Each formula calculates the product of 748 and the column B value on the same row (for example, =748×B12).

g. Enter formulas in column D that calculate the correct billing amounts (shown in the table) based on the number of CCFs used. If the CCFs value in column B is 20 or less, the formula will multiply the number of CCFs by the cost factor in cell C5; if the CCFs value is 21 or more, the formula uses the cost factor in cell C6.

h. Enter formulas in column G that calculate a rough average monthly water cost. Because this water company uses eight-week billing cycles that span three calendar months, the usage cost for any one month is either one-half a single billing or the sum of one-fourth of one billing and one-fourth the next billing, depending on where the month falls in the billing period. For example, the month of June falls entirely within the first billing period. So the formula for June's water usage cost is 50 percent of the 5/16-to-7/16 bill. An example of the formula for a month like July, which is divided between billing periods, is shown on the Formula bar in Figure 2-24.

i. Format the display of all values and calculation results as shown.

j. Save the data in a workbook file named WATERUSE.XLS, and print the entire range of data. Exit the Excel program.



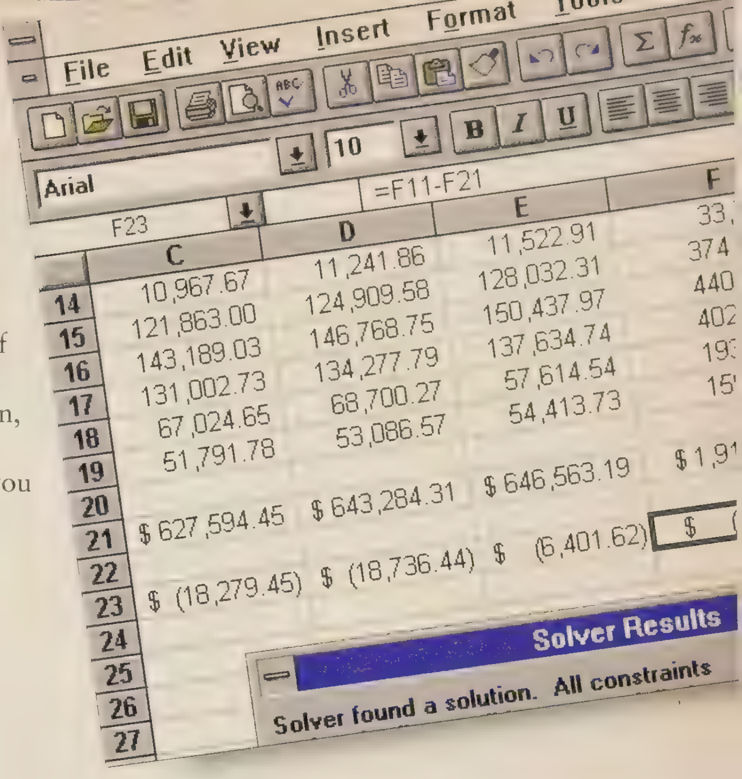
LESSON 3

USING ADVANCED WORKSHEET EDITING FEATURES

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Insert and delete one or more columns and rows.*
- *Enter an AVERAGE function to calculate a mean (average).*
- *Enter a logical IF function.*
- *Move a range of data.*
- *Clear a range of data, formats, or both.*
- *Save a workbook file under a different name.*
- *Search a range for specific characters.*
- *Search for and replace a character string with a new string.*
- *Test assumptions with what-if analyses.*
- *Use Excel's Goal Seek tool to perform a what-if analysis.*
- *Use the Solver add-in program to solve a problem.*
- *Move or copy worksheets between files.*
- *Link data between two or more worksheets in a workbook file.*



=F11-F21

	C	D	E	F
14	10,967.67	11,241.86	11,522.91	33,
15	121,863.00	124,909.58	128,032.31	374
16	143,189.03	146,768.75	150,437.97	440
17	131,002.73	134,277.79	137,634.74	402
18	67,024.65	68,700.27	57,614.54	19
19	51,791.78	53,086.57	54,413.73	15
20				
21	$ 627,594.45	$ 643,284.31	$ 646,563.19	$ 1,9
22				
23	$ (18,279.45)	$ (18,736.44)	$ (6,401.62)	$
24				
25				
26				
27				

Solver found a solution. All constraints

Now that you have some spreadsheet basics under your belt, you will learn to use some of Excel's advanced worksheet-editing features. In this lesson, you will continue working with the budget worksheet you created and modified in the previous lessons.

INSERTING AND DELETING ROWS AND COLUMNS

Spreadsheets allow you to insert and delete columns and rows quickly and easily. In some cases you need room for inserting additional data. Other times you need to separate ranges with blank space, which makes the worksheet easier to read and understand.

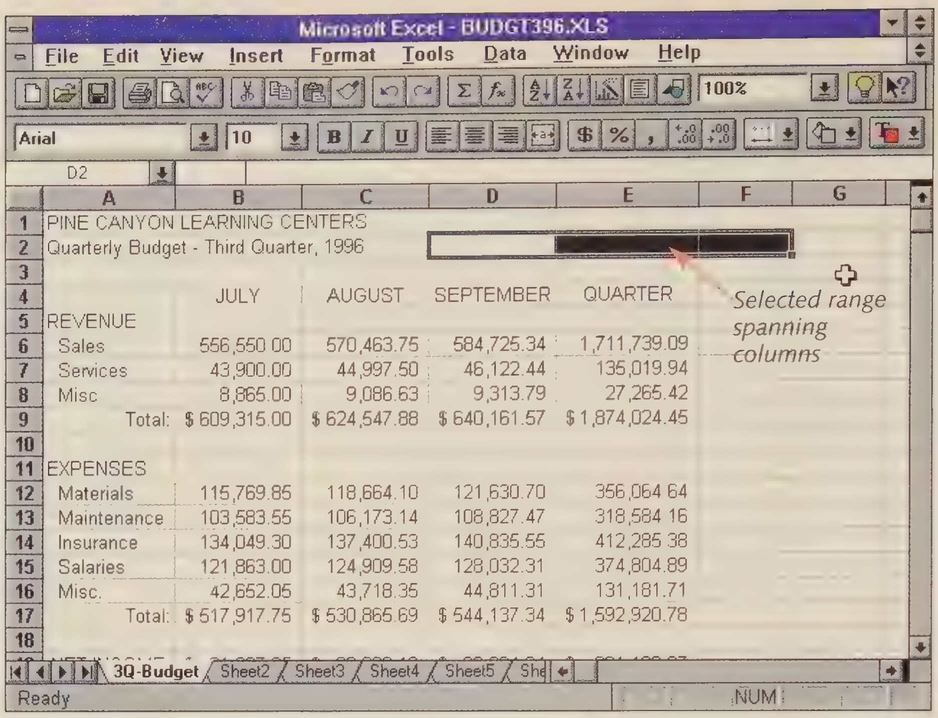
When you insert one or more columns, all columns to the right of the selected column(s) shift to the right to accommodate the new column or columns. Similarly, when you insert rows into a worksheet, all rows below the selected row(s) shift down to accommodate the new row or rows. When a column or row is inserted, Excel inserts a column or row across the entire worksheet, not just the area that is visible in the worksheet window. Keep this in mind when you insert columns or rows in your worksheets. Data out of the worksheet window's view may be affected.

You begin the procedure to insert columns or rows by selecting (highlighting) the number of columns or rows you want to insert where you want to insert them in the existing sheet. To insert a single column or row, simply position the cell cursor on any cell in the column or row where you want the new blank column or row to be. To insert two or more columns or rows, select a range that spans the number of columns or rows you want to insert, as shown in Figure 3-1.

There are two ways to select columns or rows. You can select a range that spans the same number of columns or rows as you want to insert (like you see in Figure 3-1). Alternatively, you can select (highlight) entire columns and rows by selecting (clicking on) the column letters or row numbers you see on the worksheet frame. To select multiple columns or rows like you see in Figure 3-2, you drag the mouse pointer across the column letters or row numbers on the worksheet frame.

FIGURE 3-1

You can select a range of columns simply by highlighting a row of cells that span the columns you want to select.

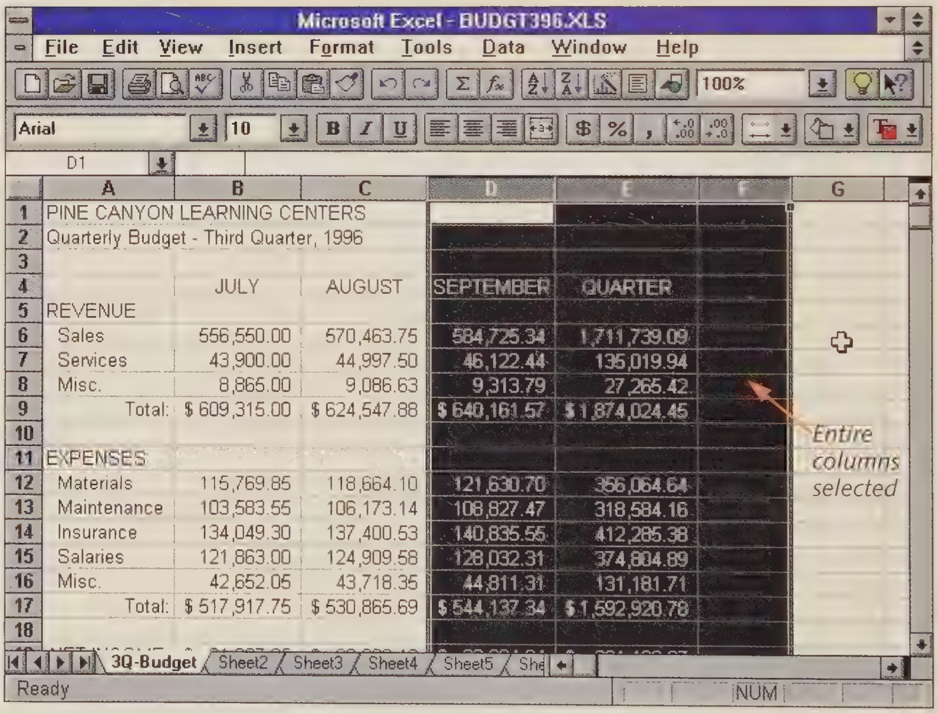

Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
D2
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
She
Ready
NUM

	A	B	C	D	E	F	G
1	PINE CANYON LEARNING CENTERS						
2	Quarterly Budget - Third Quarter, 1996						
3							
4		JULY	AUGUST	SEPTEMBER	QUARTER		
5	REVENUE						
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09		
7	Services	43,900.00	44,997.50	46,122.44	135,019.94		
8	Misc	8,865.00	9,086.63	9,313.79	27,265.42		
9	Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45		
10							
11	EXPENSES						
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64		
13	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16		
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38		
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89		
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71		
17	Total:	$ 517,917.75	$ 530,865.69	$ 544,137.34	$ 1,592,920.78		
18							

Selected range spanning columns

FIGURE 3-2

You can also select a range of columns by dragging the mouse cursor across the columns' letters on the worksheet frame.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
D1
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
She
Ready
NUM

	A	B	C	D	E	F	G
1	PINE CANYON LEARNING CENTERS						
2	Quarterly Budget - Third Quarter, 1996						
3							
4		JULY	AUGUST	SEPTEMBER	QUARTER		
5	REVENUE						
6	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09		
7	Services	43,900.00	44,997.50	46,122.44	135,019.94		
8	Misc.	8,865.00	9,086.63	9,313.79	27,265.42		
9	Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45		
10							
11	EXPENSES						
12	Materials	115,769.85	118,664.10	121,630.70	356,064.64		
13	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16		
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38		
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89		
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71		
17	Total:	$ 517,917.75	$ 530,865.69	$ 544,137.34	$ 1,592,920.78		
18							

Entire columns selected

The general procedure for inserting columns is as follows:

- To insert a single column, select a cell in the column where you want to insert the column. This column will shift to the right when the new column appears. To insert multiple columns, select the same number of columns that you want to insert, beginning where you want the first new column to appear.

- Select the Insert pull-down menu.
- Select the Columns command.

The procedure is the same for inserting a row or rows, except you select the Rows command on the Insert pull-down menu.

You can also insert new columns or rows via a shortcut Edit pop-up menu that appears when you click the right mouse button while the mouse cursor is over the visible worksheet area. This pop-up menu contains frequently used editing and formatting commands, as shown in Figure 3-3. Select the Insert option on the menu to insert as many new columns or rows as are in the selected range.

DELETING COLUMNS OR ROWS

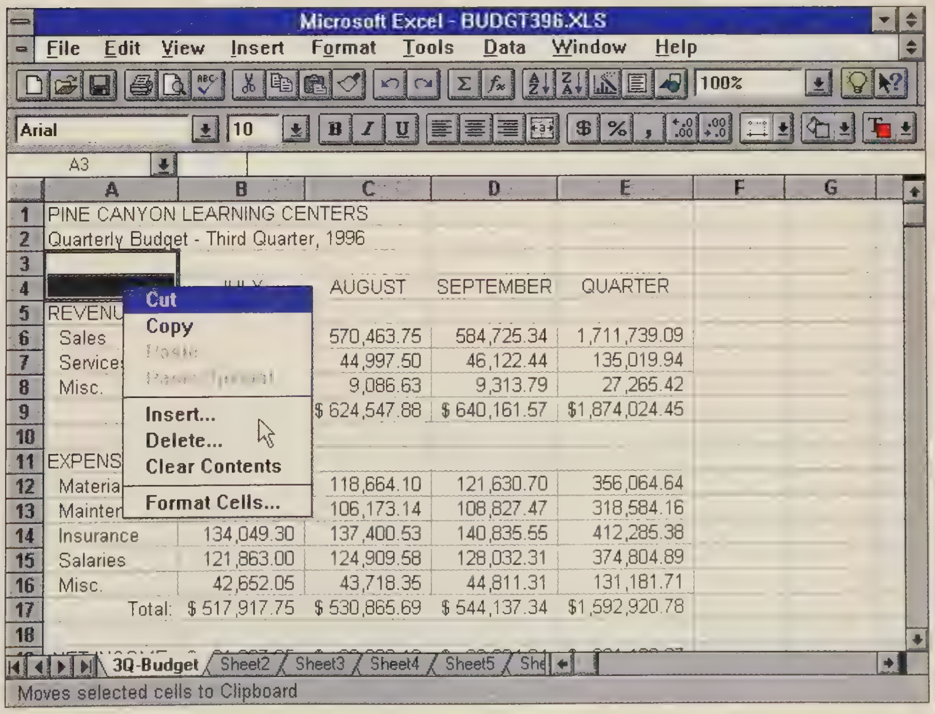
Spreadsheets also give you the ability to delete columns or rows that may contain unwanted data or provide extraneous blank areas. Bear in mind that this command can be tricky. Just as columns and rows are inserted across an entire worksheet, Excel also deletes entire columns and rows across the worksheet, not just the portions of columns and rows visible in the worksheet window. Therefore, you can lose existing data that is outside the worksheet window view.

The general procedure for deleting one or more columns or rows is similar to inserting them, except that you select the Delete command on the Edit pull-down menu (or on the Edit pop-up menu) after you've selected the column(s) or row(s) you want to delete. This command displays the Delete dialog box shown in Figure 3-4.

If you want to delete a single column (or row), simply position the cell cursor in that column (or row) and select the Entire Column (or Entire

FIGURE 3-3

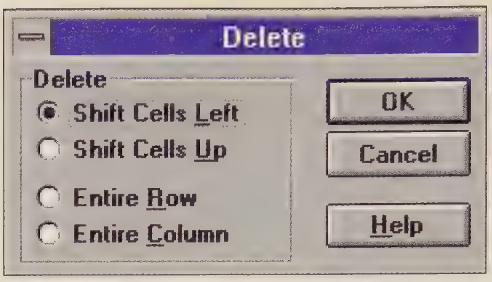
This pop-up menu that contains editing and formatting commands appears when you click the right mouse button with the mouse cursor anywhere over the worksheet window.



	A	B	C	D	E
1	PINE CANYON LEARNING CENTERS				
2	Quarterly Budget - Third Quarter, 1996				
3					
4			AUGUST	SEPTEMBER	QUARTER
5	REVENU				
6	Sales		570,463.75	584,725.34	1,711,739.09
7	Service		44,997.50	46,122.44	135,019.94
8	Misc.		9,086.63	9,313.79	27,265.42
9			$ 624,547.88	$ 640,161.57	$1,874,024.45
10					
11	EXPENS				
12	Materia		118,664.10	121,630.70	356,064.64
13	Mainter		106,173.14	108,827.47	318,584.16
14	Insurance	134,049.30	137,400.53	140,835.55	412,285.38
15	Salaries	121,863.00	124,909.58	128,032.31	374,804.89
16	Misc.	42,652.05	43,718.35	44,811.31	131,181.71
17	Total:	$ 517,917.75	$ 530,865.69	$ 544,137.34	$1,592,920.78
18					

Moves selected cells to Clipboard

FIGURE 3-4
The Delete dialog box allows you to delete selected cells, columns, or rows.



Row) radio button in the Delete option box. If you select multiple columns (or rows) first, then these options delete those columns (or rows).

INSERTING AND DELETING CELLS

In some cases, inserting or deleting entire columns or rows can have an undesirable impact on data stored in other areas of the worksheet. For this reason it is possible to insert or delete one or more cells without affecting data in adjacent columns or rows or outside the worksheet window view.

To insert cells, use the Cells command on the Insert pull-down menu. This displays the Insert dialog box shown in Figure 3-5. The Shift Cells Right option will insert a new blank cell—or a range of new blank cells equal in number to the cells in the selected range—at the cell cursor location, and all data to the right shifts to the right as many cells as necessary to accommodate the new cell(s). Similarly, the Shift Cells Down option shifts existing data down to accommodate the number of new blank cells inserted in the column.

INSERT BLANK ROWS AND A COLUMN

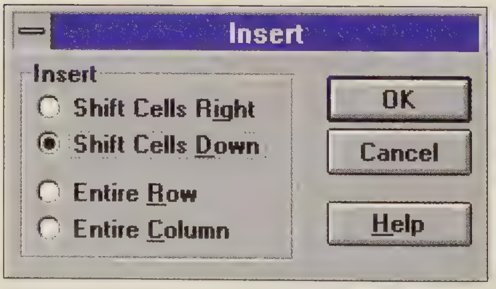
You will now practice inserting rows and a column as you continue working with your budget worksheet.

1. If necessary, load the Windows and Excel programs.
2. Select the Open button.

   The Open dialog box appears.

3. If necessary, select the drive and/or directory that stores your work files.

FIGURE 3-5
The Insert dialog box allows you to insert one or more cells or entire rows or columns at the cell cursor location.



4. Select the workbook file name BUDGT396.XLS.

   The workbook file loads, and the named budget worksheet appears in the worksheet window.

5. Make sure Excel is ready.
6. Select the range A3:A4.
7. Select the Insert pull-down menu.
8. Select the Rows command.

   Two new, blank rows insert, and all rows of existing data shift down two rows, as shown in Figure 3-6.

9. Make sure the cell cursor is in column A.
10. Select the Insert pull-down menu.
11. Select the Columns command.

    A new, blank column A inserts into the worksheet, and all columns of existing data shift to the right one column, as shown in Figure 3-7.

DECREASE A COLUMN'S WIDTH

Because the new column will serve as a narrow spacer column to give the worksheet more visual appeal, you will decrease its width.

1. Make sure Excel is ready.

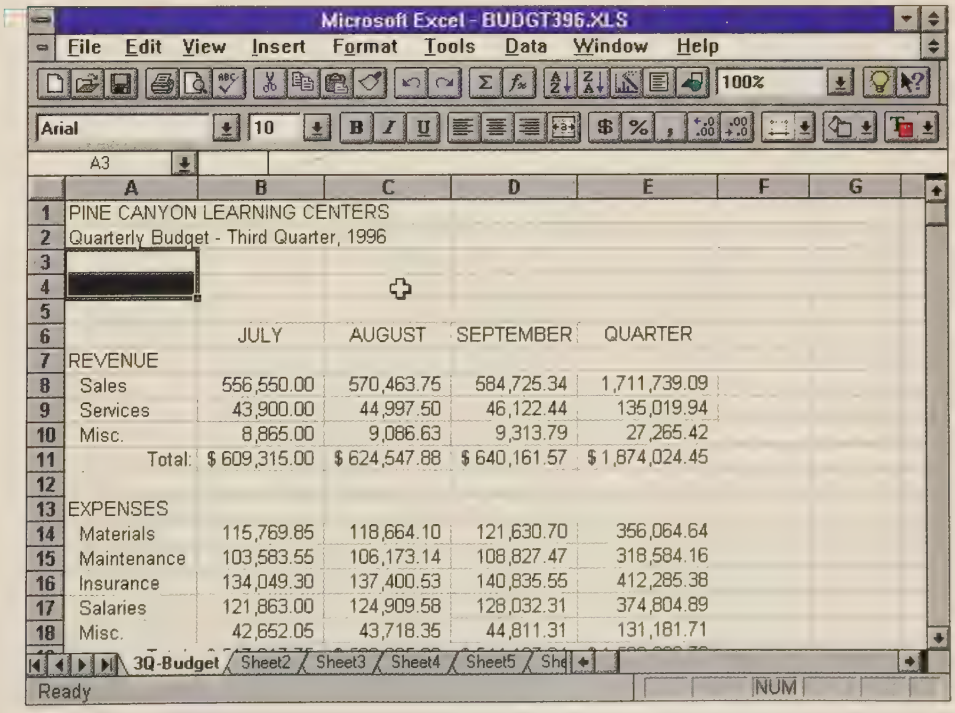


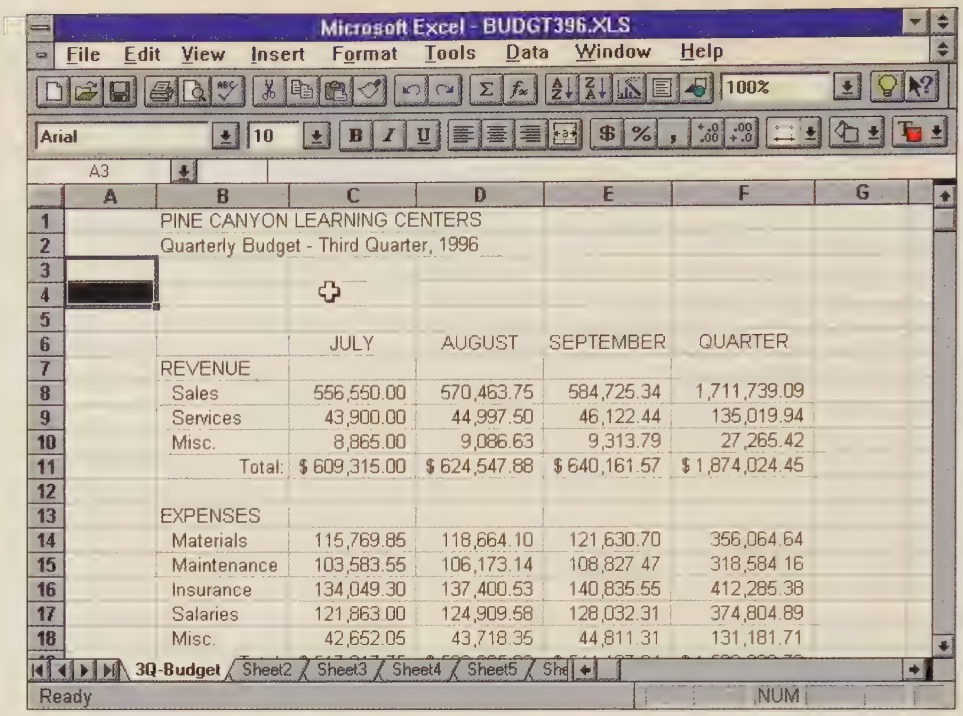
FIGURE 3-6

After inserting two new rows, all rows below them shift down two rows.

	A	B	C	D	E	F	G
1	PINE CANYON LEARNING CENTERS						
2	Quarterly Budget - Third Quarter, 1996						
3							
4							
5							
6		JULY	AUGUST	SEPTEMBER	QUARTER		
7	REVENUE						
8	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09		
9	Services	43,900.00	44,997.50	46,122.44	135,019.94		
10	Misc.	8,865.00	9,086.63	9,313.79	27,265.42		
11	Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45		
12							
13	EXPENSES						
14	Materials	115,769.85	118,664.10	121,630.70	356,064.64		
15	Maintenance	103,583.55	106,173.14	108,827.47	318,584.16		
16	Insurance	134,049.30	137,400.53	140,835.55	412,285.38		
17	Salaries	121,863.00	124,909.58	128,032.31	374,804.89		
18	Misc.	42,652.05	43,718.35	44,811.31	131,181.71		

FIGURE 3-7

After you insert a new column A, all columns to the right shift right one column.



	A	B	C	D	E	F	G
1		PINE CANYON LEARNING CENTERS					
2		Quarterly Budget - Third Quarter, 1996					
3							
4							
5							
6			JULY	AUGUST	SEPTEMBER	QUARTER	
7		REVENUE					
8		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	
9		Services	43,900.00	44,997.50	46,122.44	135,019.94	
10		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45	
12							
13		EXPENSES					
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	
18		Misc.	42,652.05	43,718.35	44,811.31	131,181.71	

2. Position the mouse cursor over column A's right border on the worksheet frame.

   The mouse cursor becomes a double arrowhead.

3. Drag the border to the left until column A's width indicator in the Name box is approximately 1.5.

INSERT ROWS AND CELLS

Now you will continue editing the budget worksheet's appearance by inserting more rows and cells into the worksheet.

1. Make sure Excel is ready.
2. Select any cell in row 11, which contains the revenue totals.
3. Select the Insert pull-down menu.
4. Select the Rows command.

   A new, blank row 11 inserts.

5. Select the range B19:F19.
6. Select the Insert pull-down menu.
7. Select the Cells command.

   The Insert dialog box appears.

8. Make sure the Shift Cells Down radio button is selected.
9. Select the OK command button.

   All cells below the selected range shift down one cell.

NOTE *You could have inserted a row to get the same result produced by steps 5–9 above.*

10. Select cell C21, which contains the projected expense total for the month of July.
11. Look at the Formula bar. Notice that the range address in the SUM function has adjusted to accommodate the cells (row) you inserted in steps 5–9.
12. Select cell B19.
13. Press Spacebar twice, type **Advertising** and press Enter.

    A new expense line item label is entered.

14. Select any cell in row 21, which contains the range of projected expense totals.
15. Select the Insert pull-down menu.
16. Select the Rows command.

    A new, blank row 21 inserts.

DELETE A ROW

Three rows between the worksheet's titles and the row of column labels appear to be a bit too much spacing. You will continue enhancing your budget worksheet by deleting a row.

1. Select any cell in either row 3, 4, or 5.
2. Select the Edit pull-down menu.
3. Select the Delete command.

   The Delete dialog box appears.

4. Select the Entire Row radio button.
5. Select the OK command button.

   A single row deletes, and all rows beneath shift up one row. Your worksheet should appear similar to Figure 3-8.

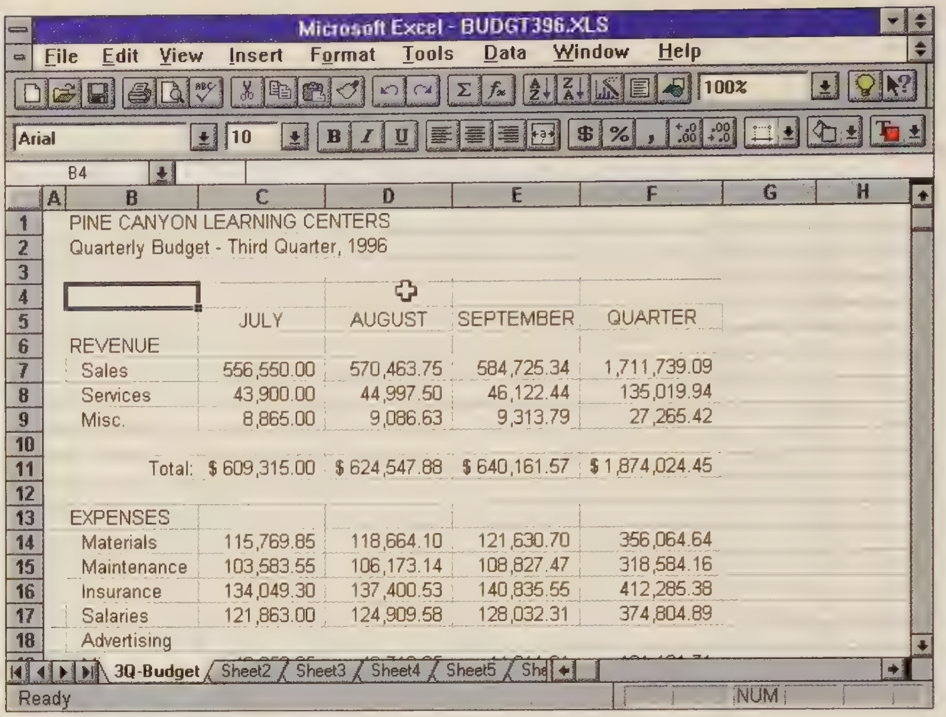
6. Select cell A1.
7. Select the Save button.

   The latest changes are saved to disk.

Later in this lesson you will use a special Function to calculate the Advertising expenses for the period in row 18.

FIGURE 3-8

After you delete a row, all rows beneath shift up one row.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B4
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
She
Ready
NUM

	A	B	C	D	E	F
1		PINE CANYON LEARNING CENTERS				
2		Quarterly Budget - Third Quarter, 1996				
3						
4						
5			JULY	AUGUST	SEPTEMBER	QUARTER
6		REVENUE				
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09
8		Services	43,900.00	44,997.50	46,122.44	135,019.94
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42
10						
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45
12						
13		EXPENSES				
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89
18		Advertising				

USING THE AVERAGE FUNCTION

In Lesson 2 you learned how to enter the SUM function to calculate a sum for a range of values. The Excel program includes a statistical function that computes a mean (average) just as efficiently. A mean is calculated by dividing the sum of a set of values by the number of values in the set. Consider the following set of seven numbers:

2, 7, 5, 10, 4, 3, and 4

The mean for this set of numbers is 5, as shown by the following calculation:

2+7+5+10+4+3+4=35

35÷7=5

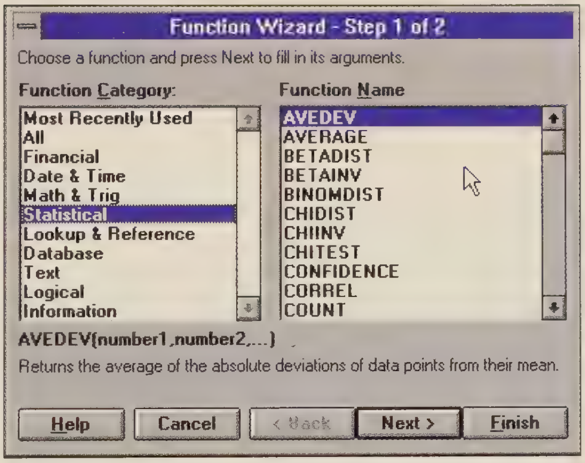
The AVERAGE function performs this operation on any range of values stored in a worksheet that you reference in its list of arguments. Like the SUM function, the AVERAGE function's argument(s) can be a single cell, range, or constant. The AVERAGE function can include up to 30 arguments separated with commas.

USING EXCEL'S FUNCTION WIZARD

You can take full advantage of Excel's graphical environment by using your mouse exclusively to enter functions in worksheets. You can do this with Excel's **Function Wizard**, a tool for selecting any of Excel's functions, its arguments, and entering them accurately. Excel gives you three ways to access the Function Wizard:

- Select the Function command on the Insert pull-down menu.
- Select the Function Wizard button on the Standard toolbar.
- Type an equal sign to begin the function, and then click on the Formula bar's Function Wizard button.

The Function Wizard - Step 1 Of 2 dialog box shown in Figure 3-9 allows you to begin entering a function by selecting a function category, if necessary, in the list on the left and then selecting the name of a function in the list on the right. To go to the next step, you then select the Next button, which displays the dialog box shown in Figure 3-10. This dialog box allows you to enter the function's arguments. Here you have the option of typing the argument(s), or you can select them directly in the worksheet. To select them with the mouse, move the dialog box aside, if necessary, and then select the cells or range you want the function to operate on. Be sure to separate multiple arguments with commas. Once you've entered the necessary argument(s), select the Finish button to enter the function and return to the worksheet.



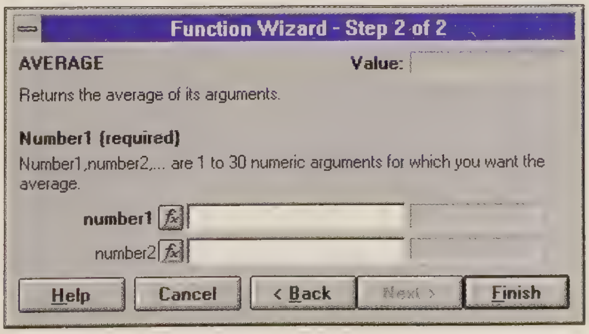
Choose a function and press Next to fill in its arguments.

AVEDEV(number1,number2,...)

Returns the average of the absolute deviations of data points from their mean.

FIGURE 3-9

The Function Wizard - Step 1 Of 2 dialog box appears when you select the Function Wizard button on the Standard toolbar or on the Formula bar. This feature enters functions, including their arguments, in the worksheet for you.



AVERAGE

Returns the average of its arguments.

Number1 (required)

Number1,number2,... are 1 to 30 numeric arguments for which you want the average.

FIGURE 3-10

When you select the Next button in the first Function Wizard dialog box, the second one appears. You use this dialog box to specify the selected function's arguments.

ENTER AN AVERAGE FUNCTION

In your budget worksheet you will use the AVERAGE function and the Copy operation to create a column of average values for the revenue and expense line items.

1. Make sure Excel is ready.
2. Select cell G5, the cell to the right of the "QUARTER" column label.
3. Press Caps Lock to turn on uppercase status.
4. Type **AVERAGES** and press ↓ twice.
5. Press Caps Lock to turn off uppercase status.
6. Select the Function Wizard button on the Standard toolbar.

   The Function Wizard - Step 1 Of 2 dialog box appears.
7. Select the Statistical option in the Function Category list, if necessary.
8. Double-click on the AVERAGE function name in the Function Name list.

   The selected function is inserted in the active cell and on the Formula bar. Notice that the argument's parentheses appear beside the function name. The Function Wizard - Step 2 Of 2 dialog box appears.
9. If necessary, drag the dialog box so that you can see the range of budget revenues in the worksheet window.
10. Select the range C7:E7.

    The range address appears on the Formula bar, in the active cell, and in the argument Number 1 edit field in the dialog box.
11. Select the Finish button.

    The AVERAGE function's result appears in cell G7.
12. If the column is too narrow to display the result, adjust the width of column G so you can see the calculated mean.
13. Select the Save button.

    The latest changes are saved to disk.

COPY THE FUNCTION

Now you will copy the AVERAGE function down the column to calculate monthly averages for the other revenue and expense items.

1. Make sure Excel is ready.
2. Select cell G7, if necessary.
3. Click on the Copy button.
4. Select the range G8:G9.

5. Press and hold down Ctrl.
6. Select cell G11, while holding down Ctrl.
7. Select the range G14:G19, while holding down Ctrl.
8. Select cell G21, while holding down Ctrl.
9. Select cell G23, while holding down Ctrl.
10. Release Ctrl.
11. Select the Paste button.

    The AVERAGE function copies to the selected target ranges. The relative range references cause the AVERAGE function copies to calculate monthly means for the projected expenses.

12. If necessary, adjust the width of column G so you can see the results.

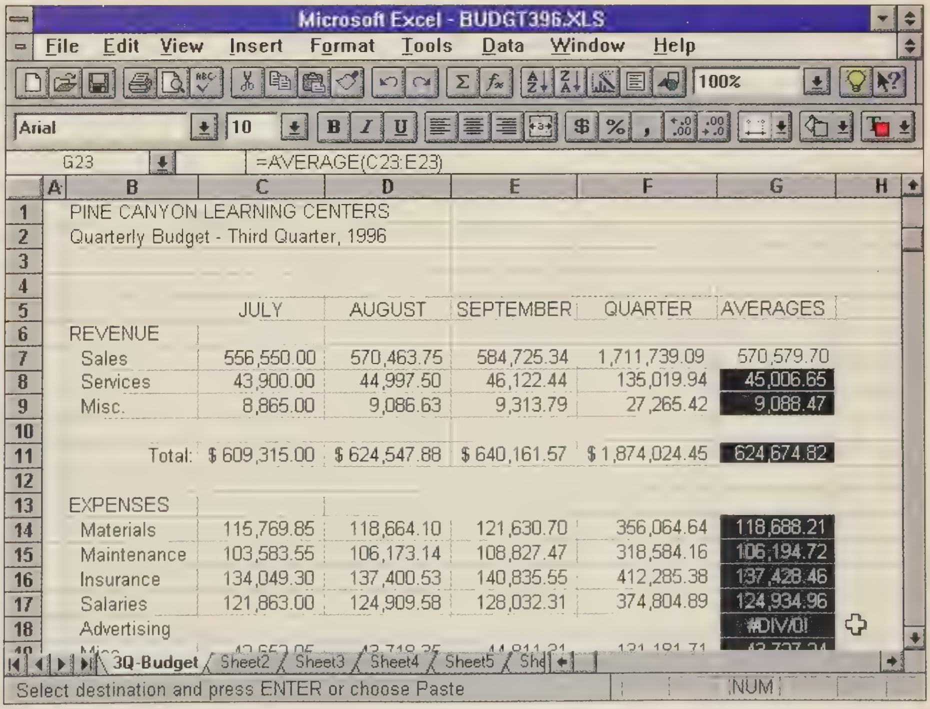
    Your worksheet should then appear similar to Figure 3-11.

Notice that the AVERAGE function in cell G18 displays #DIV/0!. Because the calculation for a mean involves division and because there are no values in the range C18:E18, Excel interprets the divisor to be zero, which is a mathematical error. The AVERAGE function will calculate a mean correctly when you enter the advertising expenses for the period, which you will do in the next section.

13. Select cell A1.
14. Select the Save button.

    The latest changes are saved to disk.

FIGURE 3-11
After entering AVERAGE functions, your worksheet should appear similar to this.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ % ,
3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
Shd
NUM

G23 =AVERAGE(C23:E23)

	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget - Third Quarter, 1996						
3								
4								
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47	
10								
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45	624,674.82	
12								
13		EXPENSES						
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21	
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96	
18		Advertising					#DIV/0!	

Select destination and press ENTER or choose Paste

USING THE LOGICAL IF FUNCTION

Now take a look at another type of Excel function. The **IF function** is one of Excel's logical functions. A logical function performs a test that evaluates a specific condition and determines it to be either true or false. If the condition proves true, then one result occurs. However, if the condition proves false, then an alternative result occurs. The arguments for the IF function are set up to reflect this logical sequence, as follows:

IF(logical_test,result_if_true,result_if_false)

The "logical_test" part of the IF function is a logical formula (or any expression that performs a logical test). A **logical formula** is a statement that returns TRUE if the statement is true or FALSE if the statement is false. In other spreadsheets, a true result might return the number 1; a false result might return the number 0. The second IF function argument represents the result that occurs if the condition proves true, and the third argument represents the result that occurs if the condition proves false.

Logical formulas use **relational operators** to perform the evaluation. Relational operators are used to compare two values. These operators are summarized in Table 3.1. Arguments in an IF function may also contain text characters, called a **string**, which must be enclosed in quotation marks (" "). Generally, text strings in an IF function are used in the second or third argument to display as a label, depending on the outcome of the logical test. For example, a teacher might average students' test scores in a worksheet and then use a series of IF functions that display either "ABOVE AVERAGE" or "BELOW AVERAGE" beside each student's score.

TABLE 3-1: RELATIONAL OPERATORS

OPERATOR	DESCRIPTION
=	Compares two values and determines if the first is equal to the second
<=	Compares two values and determines if the first is less than or equal to the second
>=	Compares two values and determines if the first is greater than or equal to the second
<	Compares two values and determines if the first is less than the second
>	Compares two values and determines if the first is greater than the second
<>	Compares two values and determines if the first is not equal to the second

ENTER AN IF FUNCTION

In your budget worksheet you will use the IF function and Copy operation to calculate advertising expense values for the period. The condition you will test is whether the projected total revenue for each month is under or over the projected average revenue total for the quarter. Depending on the status of each condition, each advertising expense will be based on one of two percentages values.

1. Make sure Excel is ready.
2. Select cell C18, which will hold the projected advertising expense calculation for July.
3. Type =if(

   The function name and the opening parenthesis appear on the Formula bar and in the active cell.
4. Select cell C11.

   The cell reference appears to the right of the opening parenthesis.
5. Type <=

   The relational less-than-or-equal-to operator appears to the right of the cell reference on the Formula bar and in the active cell.
6. Select cell G11, and then press F4.

   The relative cell reference that refers to the projected average revenue total for the quarter changes to an absolute cell reference.
7. Type , (a comma).

   The logical_test argument is entered.
8. Select cell C11.
9. Type *.11,

   A formula and comma separator are entered for the IF function's second argument.

This formula calculates a projected advertising expense that is 11 percent of the projected July revenue total, if the logical test proves true.

10. Select cell C11.
11. Type *.09)

    A formula is entered for the IF function's third argument.

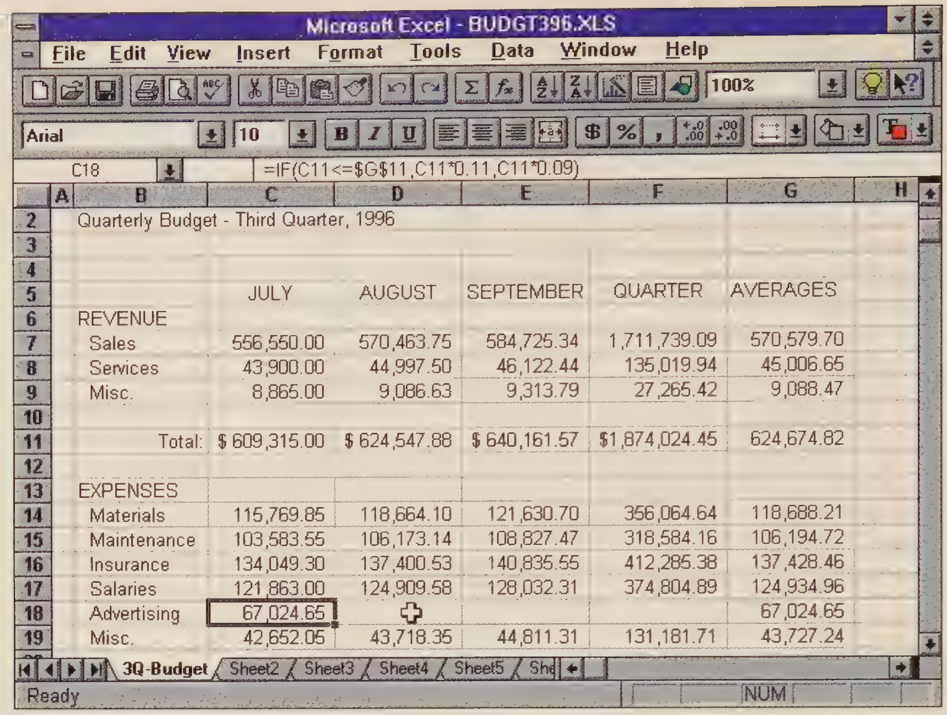
This formula calculates a projected advertising expense that is 9 percent of the projected July revenue total, if the logical test proves false.

12. Select the Formula bar's Enter button.

    The IF function is entered, and the result 67,024.65 appears in cell C18, as shown in Figure 3-12. Notice that the error value #DIV/0! no longer appears in cell G18.

FIGURE 3-12

After you enter the IF function, results calculate based on the conditional test. This entry also corrects the error code that appeared in the column of mean calculations.



C18 =IF(C11<=$G$11,C11*0.11,C11*0.09)

	A	B	C	D	E	F	G	H
2		Quarterly Budget - Third Quarter, 1996						
3								
4								
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47	
10								
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$1,874,024.45	624,674.82	
12								
13		EXPENSES						
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21	
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96	
18		Advertising	67,024.65				67,024.65	
19		Misc.	42,652.05	43,718.35	44,811.31	131,181.71	43,727.24	

13. Select cell C18, if necessary.
14. Click on the Copy button.
15. Select the range D18:E18.
16. Select the Paste button.

    The IF function copies to the target range and calculates projected advertising expenses for August and September.

Notice that for the month of September, the condition proved false (the projected total in cell E11 is *greater* than the projected average in cell G11). Thus, the projected advertising expense calculation (57,614.54) is 9 percent of the projected September revenue total (640,161.57).

17. Copy one of the SUM functions in column F to cell F18 to calculate the projected quarterly advertising expense total.
18. Select cell A1.
19. Select the Save button.

    The latest changes are saved to disk.

MOVING A RANGE OF DATA

Moving a range of data is very similar to copying one. However, instead of making a copy of the original data in the source range, you move the original data—including any formatting associated with the source cells—to the target range, leaving the source range blank.

When you move a range that contains one or more formulas or functions, the cell references in the formulas or functions do not change. However, if you move data on which a formula or function (not in the source range) operates, then the cell references in those formulas or functions change so that they operate on the same data they operated on before the move operation. For example, consider this formula in cell C14:

B14+(B14*$C27)

If you move this formula to cell F14, the formula will still appear as you see it above. However, if you move the data stored in cell C27 to cell I7, the formula will change as follows:

B14+(B14*$I7)

You can use the Cut and Paste commands on the Edit pull-down menu to move data from the source range to a target range. This is very similar to the two-step process for copying data that you learned in Lesson 2. However, while the Copy command uses the Clipboard to temporarily store a copy of selected data until you select the Paste command (or button) to insert it in a target range, the Cut command (Ctrl+x) does not send data to the Clipboard. It remains visible in the source range until you select the first cell in the target range and press Enter or select the Paste command. As an alternative to the Cut command, you can select the Cut button on the Standard toolbar.

DRAGGING DATA

You can also drag data to move it to a nearby target range in a procedure very similar to the one you learned in the previous lesson for copying data. To carry out the move operation with the mouse, you do the following:

- Position the mouse cursor over the outline that designates the cell cursor (surrounds the active cell) or that designates a selected range (surrounds the range). The mouse cursor changes to an arrow when it is properly positioned.
- Press and hold the left mouse button.
- Move the mouse in the direction you want to move the data. A dashed outline moves with the mouse cursor.
- Drag the dashed outline to another location in the worksheet, while still holding down the mouse button.
- Release the mouse button. The selected data moves to the selected target range.

If the target range is not visible in the worksheet window when you move data with the mouse, simply drag the outline to the edge of the window to scroll the desired target range into view.

MOVE A RANGE

You will continue to work with the budget workbook file you created and modified in Lessons 1 and 2.

1. Make sure Excel is ready.
2. Scroll the worksheet, and select the range B29:C33.
3. Select the Edit pull-down menu.
4. Select the Cut command.

   A flickering, dashed outline surrounds the selected data, and a message appears on the Status bar that tells you how to complete the move operation.

5. Scroll the worksheet, and select cell I5.
6. Select the Paste button.

   The range of expense labels and percentage factors moves to the target range along with the associated cells' formatting.

7. Scroll the worksheet, and select cell C30.
8. Type **20.0** and press Enter.

   Notice that the Percent format is not applied to the new data you entered in the cell. Value formats associated with the source cells move with the range of data.

9. Select cell C30.
10. Press Del.
11. Select cell A1.
12. Select the Save button.

    The latest changes are saved to disk.

CLEARING A RANGE OF DATA

There are times when you realize that you do not need a particular range of data or you want to clear a range of data so that you can replace it with other data. You can do this several ways when using Excel. Perhaps the simplest way is to select the cells containing the data you want to clear and press Del. This erases the contents from the selected range, but leaves any formats associated with the cells intact.

The Clear command on the Edit menu, however, gives you some more flexibility with clearing ranges. The Edit, Clear command displays a pop-up menu that allows you to clear a cell's or selected range's content, format, or both.

Whichever method you prefer to use, be aware that you can immediately reverse the effects of clearing a range by selecting the Undo command.

TIP *The Delete command on the Edit menu can also be used to clear the contents and formatting associated with a cell or range. If the range you want to clear is adjacent to empty cells on the right, select the Shift Cells Left radio button in the Delete dialog box. As long as there is no data to the right of the selected range, this action has the same effect as selecting the Edit, Clear command.*

CLEAR A DATA RANGE

To continue working with your budget worksheet, you will clear the range of expense percentage factors.

1. Make sure Excel is ready.
2. Scroll the worksheet, and select the range J5:J9.

   The range of expense constants is highlighted.
3. Press Del.

   The range of percentage constants clears.
4. Scroll the worksheet so you can see the range of budget expense calculations.

   Notice that all of the expense formulas have recalculated to zero (hyphens appear) except for the IF functions that calculate the advertising expense.
5. Press Ctrl+Home.

   The cell cursor moves to cell A1.
6. DO NOT SAVE THE WORKBOOK FILE!

Go on to the next section to learn how to save a workbook file under a different name.

SAVING A WORKBOOK FILE UNDER A DIFFERENT NAME

Very often it is necessary to save a workbook file under a different name. There are a variety of reasons why you might do this. Sometimes you want to preserve the original workbook just in case you are not satisfied with your changes. Other times, you may want to create multiple similar workbooks by replacing data in one version and saving it to another workbook file.

CREATING A TEMPLATE FILE

Frequent users of Excel tend to create worksheets, like budgets or sales reports, from templates. A **template** is a worksheet framework that is set up with labels, formulas, and formatting, but no data. The template worksheet can be saved under one workbook file name and opened whenever you want to create a new worksheet. After you enter the data, the workbook file can be saved under a different name, which preserves the original template workbook so it can be used again to create similar workbooks. You use the File, Save As command to save a workbook file under a different name. The general procedure is as follows:

- Select the File pull-down menu.
- Select the Save As command. The Save As dialog box appears.
- If you want to save the workbook file to a different disk location, select the disk drive and/or directory.
- Activate the File Name edit field, if necessary, and type another name for the workbook file.
- Click the OK command button (or press Enter).

The procedures you just learned for clearing ranges can be very useful for creating a template workbook file from a workbook file that you have already created. For example, you can build a budget worksheet, save it in a workbook file, clear the data ranges, and then save the "template" version under a different workbook file name.

CREATE A TEMPLATE FILE

You will clear data ranges in your budget worksheet and then save your work in another workbook file to create a template file.

1. Make sure Excel is ready.
2. Select the range C7:C9, which contains the revenue values for July.
3. Press Del.

   The range of July revenues clears, and all formulas and functions in the worksheet calculate to zero (display hyphens).
4. Select cell B2.
5. Click on the Formula bar to position the insertion bar at the end of the label.
6. Press Bksp until all the characters that follow the final *t* in the word *Budget* are deleted.
7. Press Enter (or click on the Formula bar's Enter button).
8. Select the range C5:E5.
9. Press Del.

   The range of month labels clears.
10. Select cell A1.
11. Select the File pull-down menu.
12. Select the Save As command.

13. Make sure the working directory is the location where you are storing your workbook files.

14. Highlight the file name in the File Name edit field, if necessary.

15. Press Del.

    The current workbook file name is deleted.

16. Type **budtmplt**

17. Select the OK command button.

    The budget template workbook file is saved under a new name. Your worksheet window should appear similar to Figure 3-13.

18. Double-click on the worksheet window's Control-menu box.

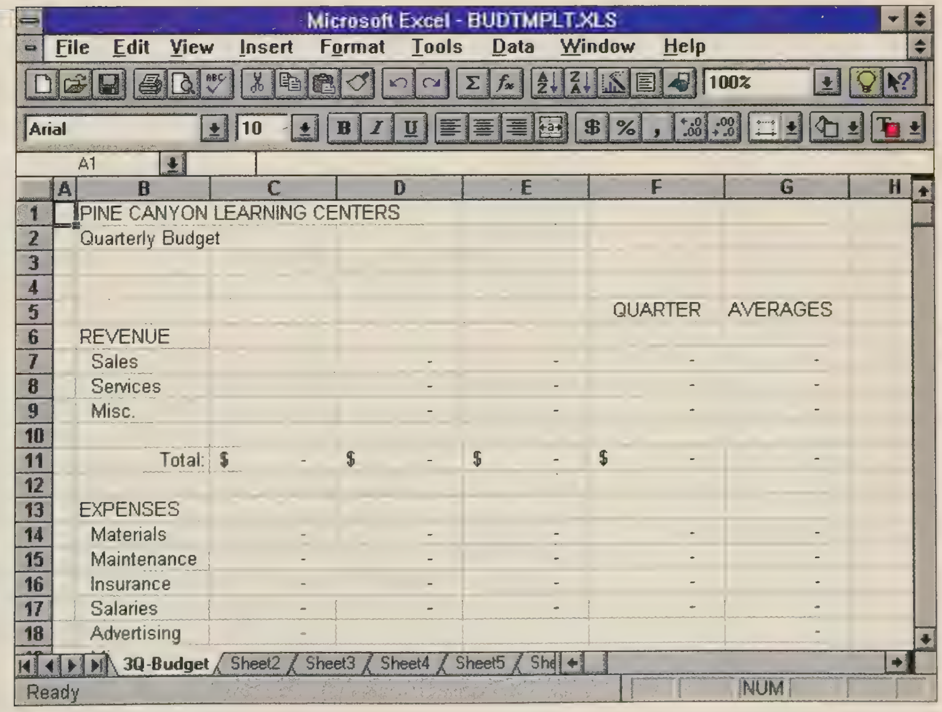
    The worksheet window clears.

FINDING DATA

Now you will learn an operation that allows you to look for specific data in a worksheet or selected range. If you have used word processing software, you are no doubt familiar with the find (or search) operation. **Find** is a feature in which the program searches through a document for a specific set of characters called a character string (or simply a "string"). With Excel's Find feature, you can look for each occurrence of the exact characters you specify. These characters can exist in labels, values, or formulas. To find data in a worksheet, you use the Find command on the

FIGURE 3-13

After you have cleared data ranges and saved the active workbook file under a different name, your template worksheet should look like this.



	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget						
3								
4								
5						QUARTER	AVERAGES	
6		REVENUE						
7		Sales		-	-	-	-	
8		Services		-	-	-	-	
9		Misc.		-	-	-	-	
10								
11		Total:	$ -	$ -	$ -	$ -	-	
12								
13		EXPENSES						
14		Materials	-	-	-	-	-	
15		Maintenance	-	-	-	-	-	
16		Insurance	-	-	-	-	-	
17		Salaries	-	-	-	-	-	
18		Advertising	-				-	

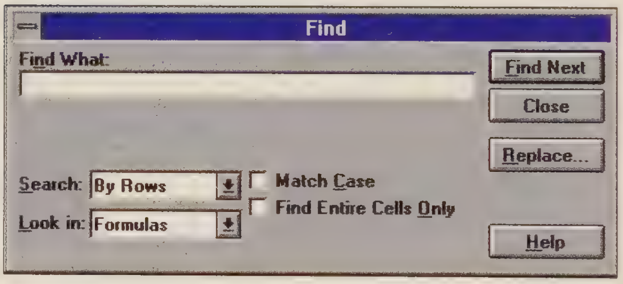
Edit pull-down menu (Ctrl+f). This command tells Excel to search the active worksheet or a specific range for a character string that you specify in the Find dialog box shown in Figure 3-14.

FINDING AND REPLACING DATA

Very often the reason you look for character strings in a worksheet or range is so that you can replace it with other data. This **find-and-replace** feature can be convenient when you want to replace several occurrences of a character string in a single operation. For example, if you know that a worksheet contains a misspelled label in several places, you can use the find-and-replace feature to find each occurrence of the misspelling and replace it with the correct spelling. You can also use the find-and-replace feature to convert all or selected AVERAGE functions, for example, to SUM functions. To do this, you would specify "AVERAGE" as the character string to find and "SUM" as the character string to replace each occurrence of "AVERAGE."

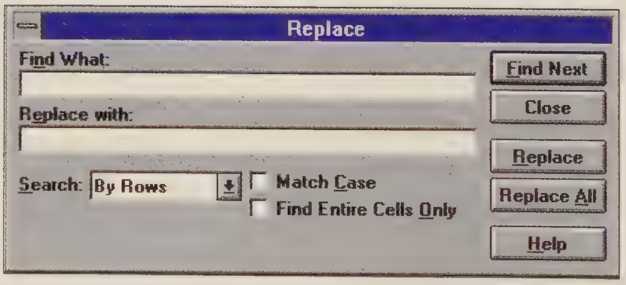
To perform this operation in an Excel worksheet, you select the Replace command on the Edit menu (or press Ctrl+h). This displays the Replace dialog box shown in Figure 3-15. You can also access this dialog box by selecting the Replace command button in the Find dialog box. The general procedure for finding and replacing data is as follows:

- Move the cell cursor to the first (upper-left corner) cell in the range of data you want Excel to search. Or, you can select the range you want to search.
- Select the Edit pull-down menu.



Search: By Rows
Look in: Formulas

FIGURE 3-14
The Find dialog box allows you to specify a character string for which you want Excel to search in the active worksheet or selected range.



Search: By Rows

FIGURE 3-15
The Replace dialog box allows you to specify a character string that replaces all or selected occurrences of the Find string in the active worksheet or selected range.

- Select the Replace command. The Replace dialog box appears.
- Enter the character string you want Excel to look for in the Find What edit field. Be sure to enter the string exactly as it has been entered in the worksheet.
- Enter the character string in the Replace With edit field that you want to replace the character string in the Find What edit field.
- Select the Find Next command button to find (but not replace) the next occurrence of the Find character string. Select the Replace command button to find the next occurrence of the Find character string and replace it with the Replace character string. Or, select the Replace All command button to replace all occurrences of the Find character string with the Replace character string.

FIND AND REPLACE DATA

After you open your budget workbook file, you will use the find-and-replace operation to set up your revenue formulas so they use a constant in another worksheet cell. You will begin by editing the table of expense percentage constants.

1. Make sure Excel is ready. Your worksheet window should be blank.
2. Select the Open button.
3. If necessary, change the drive and/or the working directory to the correct location for your working disk.
4. Double-click on the file name BUDGT396.XLS.

   The workbook file appears with the budget worksheet appearing in the worksheet window.

5. Edit the table of percentage constants so that it looks like the table shown in Figure 3-16. Be sure the table's title, labels, and values are in the same cells as they appear in the figure.
6. Be sure to enter the 2.5 percent value in cell J3 and to format all of the cells containing factors with the Percent format and one decimal place.

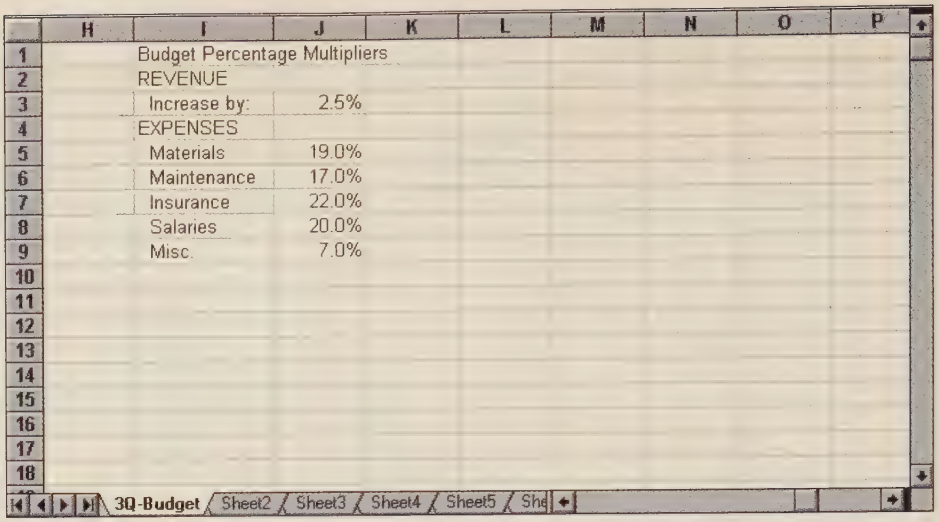
When you have completed editing your table, it is very important that the values in the table are stored in the same cells shown in Figure 3-16; if they are not, your expense calculations will no longer be accurate.

7. Select cell D7, which contains the Sales revenue calculation for August.

   Notice that the formula on the Formula bar contains the 2.5 percent value that increases projected July sales revenue.

8. Select the Edit pull-down menu.
9. Select the Replace command.

   The Replace dialog box appears. The Find What edit field is active.



I	J
Budget Percentage Multipliers	
REVENUE	
Increase by:	2.5%
EXPENSES	
Materials	19.0%
Maintenance	17.0%
Insurance	22.0%
Salaries	20.0%
Misc.	7.0%

FIGURE 3-16

Edit your table of constants so that it appears like this in the range shown. Be sure to enter each label and value in the cells shown here so that your formulas will recalculate accurately.

10. Type **2.5%** and press Tab.

The Replace With edit field is active.

11. Type J3

12. Select the Replace All button.

All occurrences of the string "2.5%" in the worksheet are replaced with the relative cell reference J3.

Look at the Formula bar to see that the relative cell reference J3 has replaced the percentage value; however, because cell J3 contains the 2.5 percent value, the results of the formulas remain unchanged.

13. Select cell D8.

Notice that the cell reference replaced the 2.5% constant in the active cell's formula.

14. Select cell E9.

Again, the 2.5% constant was replaced by the cell reference J3.

15. Select cell A1.

16. Select the Save button.

The latest changes are saved to disk.

The reason you performed this find-and-replace operation will be clearer when you work with the budget worksheet in the next section.

PERFORMING WHAT-IF ANALYSES

Up to this point you have seen numerous times how a spreadsheet recalculates formulas and functions automatically. Whenever you make a change to data in cells that are referenced in formulas or functions, the program updates its results as soon as you enter the change. The spreadsheet's ability to do this is called **automatic recalculation.** Automatic recalculation is a very important feature of spreadsheets because you can use it to set up particular models in a worksheet and use those models to perform what-if analyses.

A **worksheet model** is a structure that you tailor to your needs in a worksheet environment. The model is set up so that you can analyze data by plugging in variables, which cause the model's formulas to recalculate. Just as scientists and engineers use physical models to craft plans for projects on a bigger scale, worksheet models can help you to test assumptions as well as define and solve problems while planning an upcoming financial period or other project.

A **what-if analysis** is an exercise in which you substitute different values as variables in worksheet calculations to see how they affect the results of certain calculations. The values you enter as variables can be based on particular questions that test different hypothetical situations, such as these two examples:

- What if I assume a three-year loan with an 8.75 percent interest rate? What will be my monthly payments?
- What if we increase the advertising budget by $10,000? What effect will this have on annual revenue?

Before you engage in what-if analyses, it is a good idea to save your original workbook file. That way you can always abandon your changes, or save them in another file, and still retain the original worksheet data.

PERFORM WHAT-IF ANALYSES

You will now make a few what-if analyses using your budget worksheet. For your first what-if analysis, suppose you want to know *what* will be the total projected revenue for the quarter *if* the revenues for August and September increase by 3 percent.

1. Make sure Excel is ready.
2. Scroll the worksheet so that you can see cells F11 and J3 in the worksheet window.
3. Select cell J3.
4. Type .03
5. Select the Formula bar's Enter button, watching cell F11 at the same time.

   Notice that the total projected quarterly revenue in cell F11 increased from $1,874,024.45 to $1,883,331.73. This is the result of the first what-if analysis.

Now project *what* the quarter's total revenue will be *if* the revenues for August and September increase by 5.25 percent.

6. Make sure the cell cursor is on cell J3.
7. Type .0525

8. Select the Formula bar's Enter button, watching cell F11 at the same time.

   Notice that the quarterly revenue increased to over $1.9 million.

9. Select the Undo button.

   The worksheet returns to its status before the last change. The value in the current cell returns to 3 percent.

Now try a variation on the quarterly revenue what-if analysis. Suppose that, assuming the same level of expenses over the quarter, you want to see *what* the rate of revenue increases for August and September must be *if* you are to realize a quarterly revenue goal of $2 million.

10. Make sure the cell cursor is on cell J3.

11. Type .08 and select the Formula bar's Enter button.

    The result in cell F11 is about $22,000 under *the goal.*

12. Type .0975 and select the Formula bar's Enter button.

    The result in cell F11 is almost $12,000 over *the goal.*

13. Type .09125 and select the Formula bar's Enter button.

    The result in cell F11 is less than $200 under the goal, which is probably close enough for this what-if analysis.

14. Type .025 and press Enter.

    The revenue factor changes back to the original 2.5 percent.

15. Select cell A1.

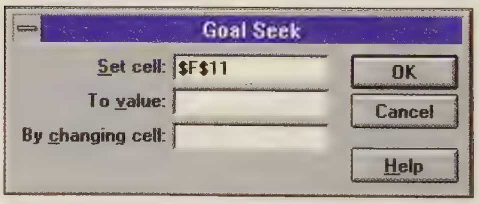
USING EXCEL'S GOAL SEEK TOOL

In the final what-if analysis that you performed in the last guided activity, you used a trial-and-error method to find the monthly increase rate that meets a particular goal for this budget. The Excel spreadsheet includes a tool that performs this operation by calculating the variable that meets a specific goal directly. The Goal Seek command on the Tools pull-down menu can save you some of the trial-and-error guesswork necessary in many what-if analyses as you plug in variables to arrive at a desired solution.

To use the Goal Seek tool, you specify a value for a selected cell in the Goal Seek dialog box shown in Figure 3-17. This value represents a specific result, or **goal**, in a target cell that you want to see calculated by a formula.

FIGURE 3-17

The Goal Seek dialog box appears with an absolute cell reference to the active cell containing the variable that Excel will find to achieve the goal.



Goal Seek

Set cell: $F$11

To value:

By changing cell:

For example, you might want to see the result $1 million for a budget formula that calculates net income. You then specify a cell that contains a value that is referenced in the goal formula, either directly or indirectly.

When you carry out the goal-seek operation, Excel changes the value in the cell specified in the By Changing Cell field so that the result you are seeking is achieved. As in doing a what-if analysis, you can use the Undo command (or button) to reverse the Goal Seek's effect on the worksheet.

USE GOAL SEEK

You will use Excel's Goal Seek tool to do the same what-if analysis you last performed in the previous guided activity, and then you will use it again for another analysis.

1. Make sure Excel is ready.

2. Make sure the workbook file BUDGT396.XLS is active.

3. Select cell F11.

4. Select the Tools pull-down menu.

5. Select the Goal Seek command.

The Goal Seek dialog box appears. Notice that the active cell's address, which contains the quarter's revenue total calculation, is highlighted in the Set Cell edit field.

6. Press Tab.

The To Value edit field is active.

7. Type **2000000** and press Tab.

The By Changing Cell edit field is active.

8. Type **j3** and press Enter.

Pressing Enter selects the OK command button, and Excel calculates a variable for cell J3 that meets the $2 million goal for cell F11. After the calculation is complete, the Goal Seek Status dialog box appears.

9. Select the OK command button.

10. Select cell J3.

The variable Excel calculated for the $2 million total revenue goal is in the active cell.

Notice that Excel's Goal Seek tool calculated the variable to 16 decimal places to arrive at the goal exactly. A trial-and-error procedure to arrive at the same result manually might take you an hour or more. The Goal Seek tool did it in seconds!

11. Select the Undo button.

The worksheet returns to its status before carrying out the goal-seek operation.

CALCULATE ANOTHER VARIABLE WITH GOAL SEEK

You will use the Goal Seek tool again to calculate another variable that achieves a particular goal. Suppose you want to know *what* the projected sales revenue amount for July should be to achieve a total projected net income goal of $100,000 for the quarter.

1. Make sure Excel is ready.
2. Select cell F23.
3. Select the Tools pull-down menu.
4. Select the Goal Seek command.

   The Goal Seek dialog box appears. The absolute cell reference for the active cell is highlighted in the Set Cell edit field.

5. Press Tab.
6. Type **100000** and press Tab.

   The By Changing Cell edit field is active.

7. Type **c7** and press Enter.

   Excel calculates a variable that meets the specified goal, and the Goal Seek Status dialog box appears.

8. Select the OK command button.
9. If necessary, scroll the worksheet so you can see the new value in cell C7, which Excel entered with the Goal Seek tool.

   Notice that cell C7 contains the new variable $641,498.65.

10. Select the Undo button.

    The worksheet returns to its status before the last operation was performed.

USING THE SOLVER ADD-IN PROGRAM

Automatic recalculation makes it possible for you to perform what-if analyses either by substituting variables yourself or by using the Goal Seek tool. However, you may run into occasions where you would like to analyze one or more goals in a worksheet model by changing several variables at once. Excel provides a powerful add-in program called Solver that allows you to define and solve multi-variable problems using worksheet data.

An **add-in program** is a separate, supporting program that comes with an applications program, like Excel. Add-in programs can be developed by the same developers of the applications program, or they can be third-party products packaged with the applications software. **Solver** is a Microsoft program that supplies Excel with a tool for defining and solving detailed problems with multiple variables.

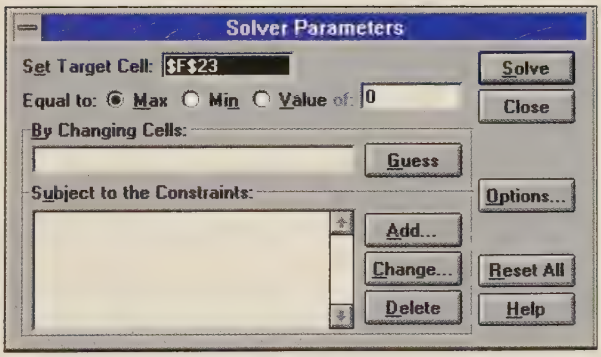
Solver's power gives you a great deal more flexibility over the Goal Seek tool because, in addition to the target cell (goal), you can specify a range of cells, or selected nonadjacent cells, that can be changed to achieve a desired goal. When defining problems with Solver, you can also specify certain constraints that provide some control over the degree to which Excel changes values (variables). A **constraint** is established by using certain relational operators to define the limit or range in which a variable can be changed. For example, you might want Solver to determine an advertising expense that does not exceed 25 percent of monthly revenue.

Solver can also be used in a variety of other worksheet models. For instance, you might want to determine which raw materials purchases will best help you meet a production goal while staying within a particular budget level. You could also apply Solver to resource allocation situations, such as estimating percentages of a particular raw material's use in various products to achieve the lowest possible by-product or waste.

SETTING UP SOLVER

The Solver add-in program is run by selecting the Solver command on the Tools pull-down menu. After the program loads, the Solver Parameters dialog box shown in Figure 3-18 appears. For the target cell, you can specify a maximum value, minimum value, or a specific value. In the By Changing Cells edit field you can specify a single cell, a range, or nonadjacent cells.

If you want to specify constraints, select the Add command button from the Subject To The Constraints options. This command button displays the dialog box shown in Figure 3-19. In the Add Constraint dialog box, you specify a cell, select one of the three listed relational operators, and then specify a value or a reference to a cell with a value you want to use as a constraint for the operation.



Set Target Cell: $F$23

Equal to: ● Max ○ Min ○ Value of: 0

FIGURE 3-18
After the Solver add-in program loads, the Solver Parameters dialog box appears. Use this dialog box to specify a target cell or cells, cells containing variables that Excel can change, and constraints for the target and/or variable cells.

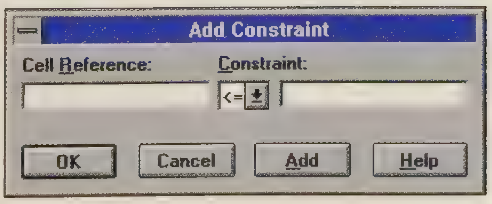


FIGURE 3-19
The Add Constraint dialog box allows you to specify a target or variable cell, a relational operator, and a constraint value.

Using your budget worksheet as an example, suppose you want to find out the maximum amount of net income for the period that can be achieved by reducing the expense percentage constants. Although common sense tells you that no expenses will give you the maximum amount of net income possible, you can set minimum percentage constants as constraints for Solver to work with.

Once you've set up the target cell, changing cells, and any constraints, you can select the Solve command button to put Solver to work at obtaining a solution. If Solver can work with the parameters as you have set them up, a message telling you that Solver found a solution appears in the Solver Results dialog box shown in Figure 3-20. If Solver encounters any problem, then a message telling you so will appear instead, and worksheet values will remain unchanged. You can elect to keep the changes made by Solver, or you can return the worksheet to its status before running Solver.

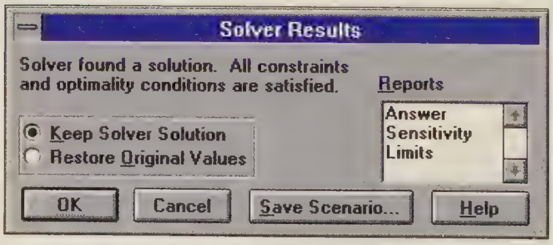
SAVING SCENARIOS

The Save Scenario button in the Solver Results dialog box allows you to assign a name to the set of input values, or variables, as they exist for the current worksheet model to which you've applied Solver. A **scenario** is the set of input values that correspond to the current status of the worksheet model, including the calculated result (goal) you wanted to achieve. You can use these named scenarios later for other what-if problems or situations in which you want to apply Solver. To use a scenario, you can select the Scenario command on the Tools pull-down menu, which displays the Scenario Manager dialog box shown in Figure 3-21.

SET UP SOLVER PARAMETERS

You will use the Solver add-in program to determine the third-quarter budget's maximum and minimum net income values, based on varying the expense rate constants.

1. Make sure Excel is ready.
2. Select cell F23, if necessary.
3. Select the Tools pull-down menu.



Solver found a solution. All constraints and optimality conditions are satisfied.

● Keep Solver Solution
○ Restore Original Values

FIGURE 3-20
When Solver finds a solution to your defined problem, the Solver Results dialog box appears. If Solver is unable to arrive at a solution to the problem, the Solver Results dialog box will display a message telling you so.

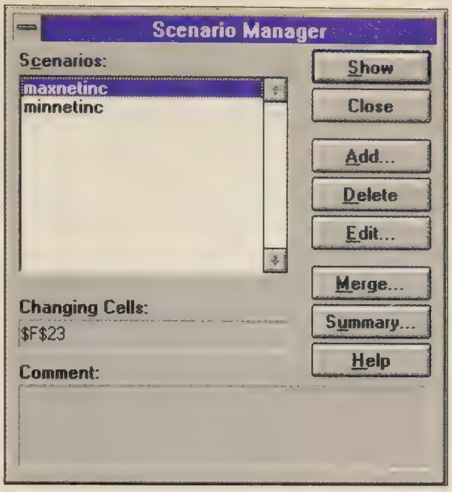


FIGURE 3-21
The Scenario Manager dialog box appears when you select the Scenario command on the Tools pull-down menu. This dialog box allows you to select and manage named scenarios—sets of variables that produce a specific goal.

4. Select the Solver command.

   The Solver add-in program loads, and the Solver Parameters dialog box appears. Notice that the active cell's absolute reference is highlighted in the Set Target Cell edit field.

5. Press Tab twice.

   The By Changing Cells edit field is active.

6. If necessary, scroll the worksheet so that you can see the table of expense percentage constants.
7. Select the range J5:J9.

   The range's address appears in the By Changing Cells edit field.

8. Select the Add button in the Subject To The Constraints box.

   The Add Constraint dialog box appears.

9. Select cell J5.
10. Select the operator drop-down list arrow.
11. Select >= and press Tab.

    The greater-than-or-equal-to operator is selected, and the Constraint edit field is active.

12. Type **.165**
13. Select the Add command button.

    The constraint is added to the Solver parameters, and the Add Constraint dialog box clears and remains displayed.

14. Select cell J6.
15. Select the operator drop-down list arrow.
16. Select >= and press Tab.
17. Type **.14**

18. Select the Add command button.

    The constraint is added to the Solver parameters, and the Add Constraint dialog box clears and remains displayed.

19. Using the same method outlined in steps 14–18, add the following constraints for the range J7:J8:

    J7 >= .1925

    J8 >= .1875

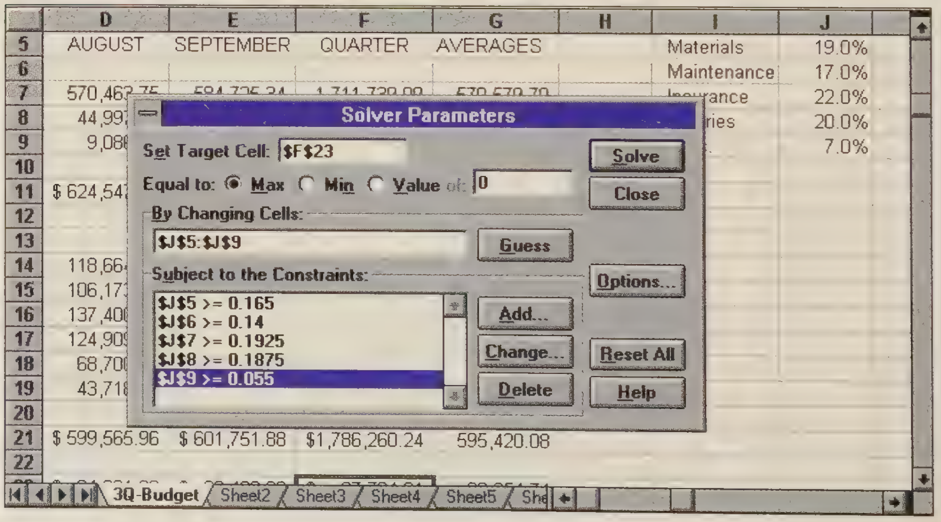
20. Make sure the Add Constraint dialog box is clear.
21. Type j9
22. Select the operator drop-down list arrow.
23. Select >= and press [Tab].
24. Type .055
25. Select the OK command button.

    The Solver Parameters dialog box reappears. Your dialog box should look similar to the one shown in Figure 3-22.

USE SOLVER TO ADJUST A RANGE OF CONSTANTS

Now that you've set up the Solver parameters, you are ready to run the operation.

1. Make sure Excel is ready.
2. Make sure the Solver Parameters dialog box is active.



Set Target Cell: $F$23

Equal to: ● Max ○ Min ○ Value of: 0

By Changing Cells: $J$5:$J$9

Subject to the Constraints:
$J$5 >= 0.165
$J$6 >= 0.14
$J$7 >= 0.1925
$J$8 >= 0.1875
$J$9 >= 0.055

FIGURE 3-22

Make sure that the settings in your Solver Parameters dialog box are the same as those shown here.

3. Select the Solve command button.

   Solver uses the current parameters and calculates a maximum net income amount by changing the percentage constants, and the Solver Results dialog box appears, as shown in Figure 3-23.

4. If necessary, drag the Solver Results dialog box aside so that you can see the new target cell value (cell F23).

   Notice that this scenario calculates a maximum net income of $293,906.90.

5. Select the Save Scenario command button.

   The Save Scenario dialog box appears.

6. Type **maxnetinc** and press Enter.

   The Solver Results dialog box reappears.

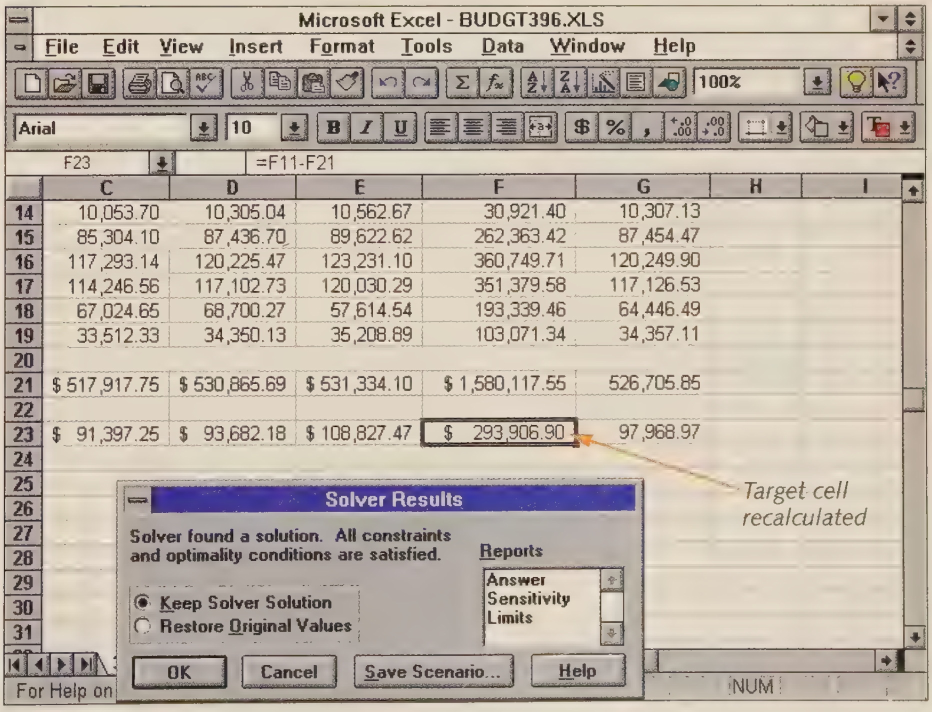
7. Select the Restore Original Values radio button.

8. Select the OK command button.

   The worksheet is active, and all values change back to their status before running Solver.

9. Select the Save button.

   The latest changes are saved to disk.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ %
For Help on
NUM

F23 =F11-F21

	C	D	E	F	G	H	I
14	10,053.70	10,305.04	10,562.67	30,921.40	10,307.13		
15	85,304.10	87,436.70	89,622.62	262,363.42	87,454.47		
16	117,293.14	120,225.47	123,231.10	360,749.71	120,249.90		
17	114,246.56	117,102.73	120,030.29	351,379.58	117,126.53		
18	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49		
19	33,512.33	34,350.13	35,208.89	103,071.34	34,357.11		
20							
21	$ 517,917.75	$ 530,865.69	$ 531,334.10	$ 1,580,117.55	526,705.85		
22							
23	$ 91,397.25	$ 93,682.18	$ 108,827.47	$ 293,906.90	97,968.97		

Solver Results

Solver found a solution. All constraints and optimality conditions are satisfied.

● Keep Solver Solution
○ Restore Original Values

Reports
Answer
Sensitivity
Limits

OK | Cancel | Save Scenario... | Help

Target cell recalculated

FIGURE 3-23

After running Solver to operate on your defined problem, you should see this Solver Results dialog box in your worksheet window.

SET UP SOLVER PARAMETERS

Now you will set up Solver to determine the quarter's minimum total net income.

1. Make sure Excel is ready.
2. Make sure cell F23 is active.
3. Select the Tools pull-down menu.
4. Select the Solver command.

   The Solver Parameters dialog box appears.

5. Select the first constraint in the list to highlight it.
6. Select the Change command button in the Subject To The Constraints box.

   The Change Constraint dialog box appears.

7. Press Tab twice.
8. Type **.185** and press Enter.

   The first constraint is changed, and the Solver Parameters dialog box reappears.

9. Using the procedure outlined in steps 5–8, select and change the remaining constraints, as follows:

   J6 >= .2

   J7 >= .235

   J8 >= .215

   J9 >= .085

   After you change constraints, your Solver Parameters dialog box should look like the one shown in Figure 3-24.

USE SOLVER TO ADJUST A RANGE OF CONSTANTS

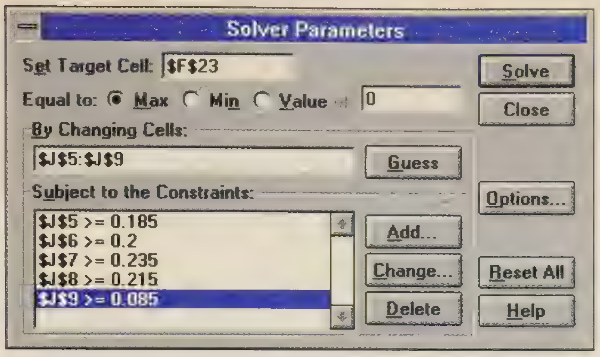
Go ahead and run the Solver operation.

1. Make sure Excel is ready.
2. Make sure the Solver Parameters dialog box is active.
3. Select the Solve command button.

   Solver uses the current parameters and calculates a minimum and negative net income of (43,417.50) by changing the percentage constants. The Solver Results dialog box appears, as shown in Figure 3-25.

FIGURE 3-24

After you change the constraints for your defined problem, the settings in your Solver Parameters dialog box should be the same as those shown here.



Set Target Cell: $F$23

Equal to: ● Max ○ Min ○ Value of: 0

By Changing Cells:

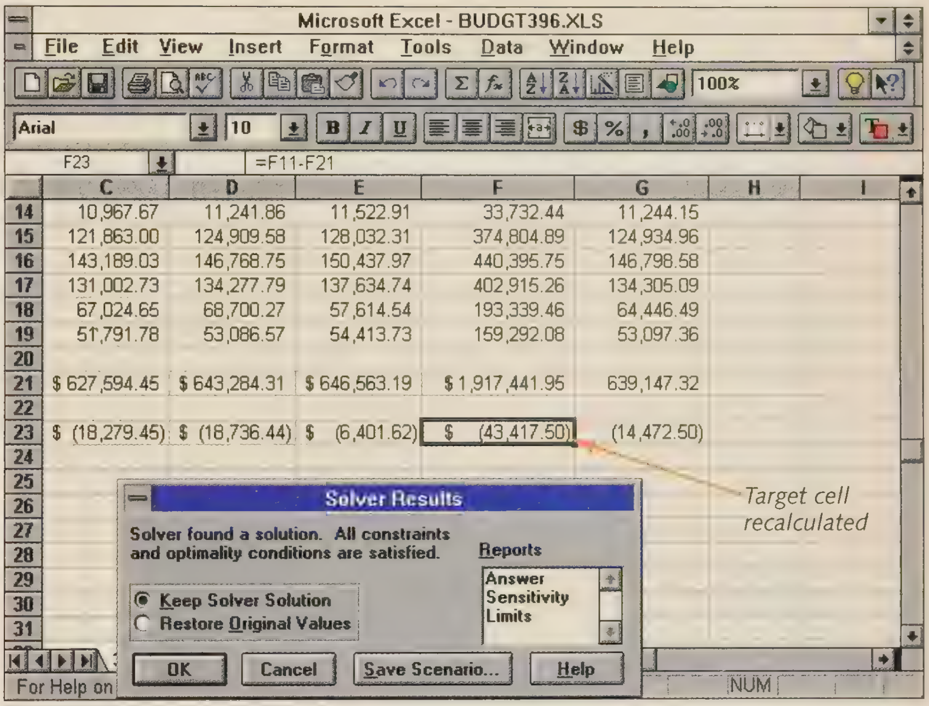
$J$5:$J$9

Subject to the Constraints:

$J$5 >= 0.185
$J$6 >= 0.2
$J$7 >= 0.235
$J$8 >= 0.215
$J$9 >= 0.085

FIGURE 3-25

After running Solver to operate on your defined problem, you should see this Solver Results dialog box in your worksheet window.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
Solver Results
OK
Cancel
Save Scenario...
Help
For Help on
NUM

F23 =F11-F21

	C	D	E	F	G	H	I
14	10,967.67	11,241.86	11,522.91	33,732.44	11,244.15		
15	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96		
16	143,189.03	146,768.75	150,437.97	440,395.75	146,798.58		
17	131,002.73	134,277.79	137,634.74	402,915.26	134,305.09		
18	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49		
19	51,791.78	53,086.57	54,413.73	159,292.08	53,097.36		
20							
21	$ 627,594.45	$ 643,284.31	$ 646,563.19	$ 1,917,441.95	639,147.32		
22							
23	$ (18,279.45)	$ (18,736.44)	$ (6,401.62)	$ (43,417.50)	(14,472.50)		

Solver found a solution. All constraints and optimality conditions are satisfied.

● Keep Solver Solution
○ Restore Original Values

Reports
Answer
Sensitivity
Limits

Target cell recalculated

4. Select the Save Scenario command button.

   The Save Scenario dialog box appears.

5. Type **minnetinc** and press Enter.

   The Solver Results dialog box reappears.

6. Select the Restore Original Values radio button.

7. Select the OK command button.

   The worksheet is active, and all values change back to their status before running Solver.

8. Select the Save button.

   The latest changes are saved to disk.

MOVING OR COPYING DATA TO ANOTHER WORKBOOK FILE

When building worksheets, users sometimes need to store a copy of a selected range of data within the current worksheet in another workbook file. Other occasions may call for moving the data from the current worksheet (workbook) to another workbook file.

Excel lets you do this with the Move Or Copy Sheet command on the Edit pull-down menu. When you select this command, you can select an existing workbook file, or create a new one, to save the data in the worksheet with which you are working. This feature allows you to save selected data and keep on working with the current copy. You can later open the file containing the copied or moved data to build another worksheet.

WORKING WITH MULTIPLE WORKSHEETS

Excel allows you to work with as many worksheets in a single workbook file as your system's memory will allow. Up until now you have worked exclusively with the first worksheet, Sheet1 (which you named 3Q-Budget) in your budget workbook file. The Excel worksheet window's bottom edge displays a series of numbered **sheet tabs** that give you access to more worksheets besides Sheet1. Multiple worksheets in a single file can be beneficial for consolidating data. For example, you might keep sales figures for different regions in separate worksheets and then set up another worksheet that totals the sales figures from all the regions. You can also use multiple worksheets to create dynamic links between separate sets of data. Dynamic links will be discussed shortly.

COPY A WORKSHEET

You will copy the budget template worksheet to a new worksheet in your budget workbook file.

1. Make sure Excel is ready.
2. Make sure the workbook file BUDGT396.XLS is active.
3. Select the Open button.

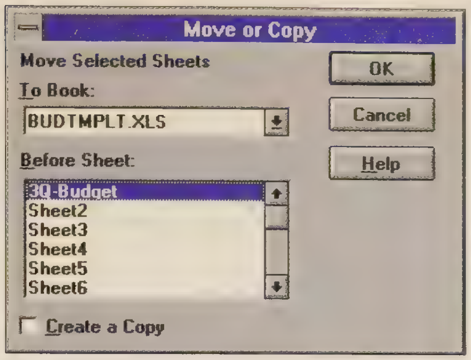
   The Open dialog box appears.
4. Double-click on BUDTMPLT.XLS.

   Both workbook files open into separate, full-screen windows. The template workbook file is active (visible).
5. Select the Edit pull-down menu.
6. Select the Move Or Copy Sheet command.

   The Move Or Copy dialog box appears, as shown in Figure 3-26.
7. Select the To Book drop-down list's arrow.

FIGURE 3-26

The Move Or Copy dialog box allows you to move or copy an entire sheet to another workbook file or to the active workbook file.



BUDTMPLT.XLS

3Q-Budget
Sheet2
Sheet3
Sheet4
Sheet5
Sheet6

☐ Create a Copy

A drop-down list of file names appears.

8. Select the BUDGT396.XLS option.

   The workbook file name BUDGT396.XLS highlights in the To Book edit field.

9. Select the Sheet2 option in the Before Sheet list box.
10. Click on the Create A Copy check box.

    An X appears in the check box to show the option is turned on.

11. Select the OK command button.

    A copy of the template worksheet is placed in a new worksheet within the budget workbook file. This worksheet, labeled 3Q-Budget (2) contains a copy of the budget template worksheet.

12. Select the 3Q-Budget tab.

    The active worksheet window contains the BUDGT396.XLS worksheet data.

13. Select the File pull-down menu.
14. Select the Save As command.

    The Save As dialog box appears.

15. Type **budgets** and press Enter.

    A new workbook file contains both a copy of the sheet in the BUDGT396.XLS file and the template it stored in the BUDTMPLT.XLS workbook file.

16. Select the Window pull-down menu.
17. Select the window containing the workbook file BUDTMPLT.XLS to activate it.
18. Double-click on the active file window's Control-menu box to close the BUDTMPLT.XLS workbook file.

    The budget workbook file BUDGETS.XLS is now active in the worksheet window.

LINKING DATA BETWEEN TWO WORKSHEETS

It is possible to dynamically link data between two Excel worksheets in the same workbook file. A **dynamic link** is established when a formula in a cell in a source worksheet operates on data in a cell in another (target) worksheet. Such a link is dynamic because if the linked data is affected by any changes in the source worksheet, then the formula in the target worksheet recalculates automatically.

A cell entry is linked between two files by entering a sheet reference in a formula. A **sheet reference** is the sheet's name in front of a cell or range address. It can be typed, but it is even easier to enter it simply by pointing to a cell or range in the sheet as you build the formula. This is where the sheet tabs at the bottom of the Excel window come in handy. At any time you have 16 or more worksheets at your disposal within any one workbook file.

If you want to reference a cell or range in another worksheet, begin the formula as usual, and then click on one of the sheet tabs to go directly to that worksheet. Then simply select the cell or range you want to reference. The cell or range reference can be either a relative, absolute, or mixed reference just like in any other formula.

As we mentioned previously, the ability to link worksheets dynamically is especially useful for consolidating data. For example, suppose a company's sales manager maintains accrued sales data in a separate worksheet for each sales branch in her region. At the end of each quarter, the sales manager can create a worksheet that consolidates the totals from each branch worksheet into a single worksheet.

To further illustrate this concept, suppose the sales manager sets up each branch worksheet so that its quarterly sales total is in cell E25. She can enter formulas into a consolidation worksheet within the same workbook file that sums the totals from each cell E25 in each branch worksheet to calculate a sales grand total for her region. More importantly, if sales data is changed in one or more of the branch worksheets, then the consolidation worksheet is updated instantly!

USE MULTIPLE WORKSHEETS

You will link data between the two worksheets in the active workbook file to create a new budget for the fourth quarter, based on previous projections in the third-quarter budget.

1. Make sure Excel is ready.
2. Activate the 3Q-Budget (2) sheet.
3. Select cell B2.
4. Click on the Formula bar to place the insertion bar at the end of the label.
5. Press Spacebar and type **- Fourth Quarter, 1996**

6. Press Enter.
7. Select cell C5.
8. Press Caps Lock.
9. Type **OCTOBER** and press →.
10. Type **NOVEMBER** and press →.
11. Type **DECEMBER** and press Enter.
12. Select cell C7.
13. Type =
14. Select the 3Q-Budget tab.

    3Q-Budget, which contains the third-quarter budget, becomes active.

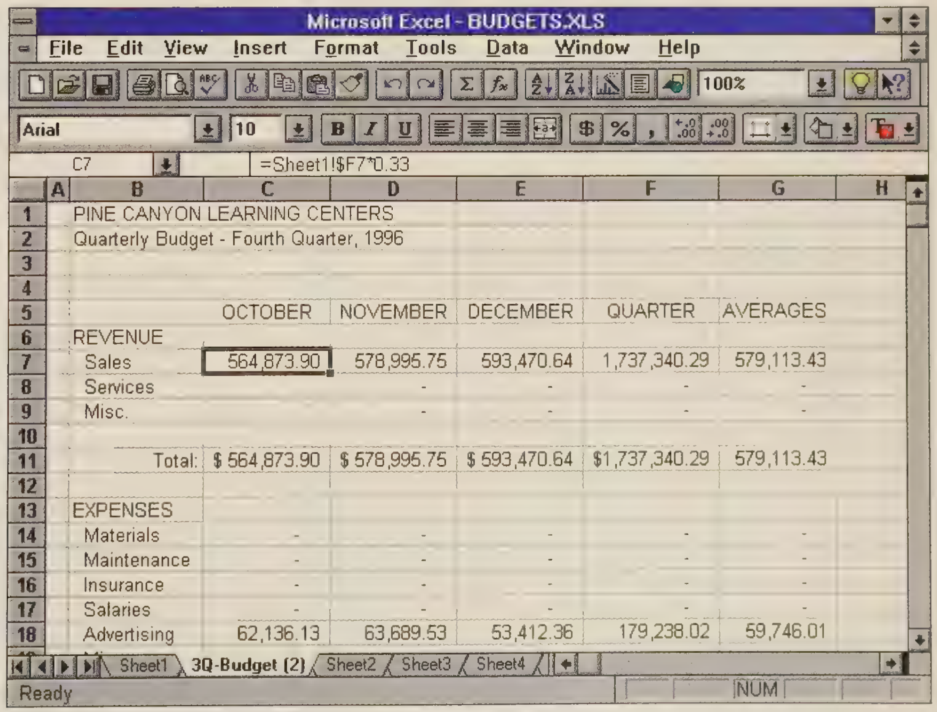
15. Select cell F7.
16. Press F4 three times.
17. Type *.33
18. Select the Formula bar's Enter button.

    The formula is entered in the active cell, and the other Sales revenue formulas in 3Q-Budget (2) calculate, as shown in Figure 3-27.

19. Make sure cell C7 in 3Q-Budget (2) is active.
20. Select the Copy button.

FIGURE 3-27

After entering a formula that links data in another sheet, the active sheet in your workbook file should appear like this.


Microsoft Excel - BUDGETS.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
$ %
Sheet1
3Q-Budget (2)
Sheet2
Sheet3
Sheet4
Ready
NUM

C7 =Sheet1!$F7*0.33

	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget - Fourth Quarter, 1996						
3								
4								
5			OCTOBER	NOVEMBER	DECEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	564,873.90	578,995.75	593,470.64	1,737,340.29	579,113.43	
8		Services		-	-	-	-	
9		Misc.		-	-	-	-	
10								
11		Total:	$ 564,873.90	$ 578,995.75	$ 593,470.64	$1,737,340.29	579,113.43	
12								
13		EXPENSES						
14		Materials	-	-	-	-	-	
15		Maintenance	-	-	-	-	-	
16		Insurance	-	-	-	-	-	
17		Salaries	-	-	-	-	-	
18		Advertising	62,136.13	63,689.53	53,412.36	179,238.02	59,746.01	

21. Select the range C8:C9.
22. Select the Paste button.

    All the revenue formulas and functions recalculate, based on a projected 33 percent of the previous quarter's totals for October.

23. Select cell A1.
24. Press Caps Lock to turn off uppercase mode.
25. Select the Save button.

    The latest changes are saved to disk.

RENAME THE ACTIVE SHEET

Before you complete the fourth-quarter budget, you will rename the sheet.

1. Make sure Excel is ready.
2. Make sure 3Q-Budget (2) sheet is active.
3. Select the Format pull-down menu.
4. Select the Sheet command.

   A pop-up menu appears.

5. Select the Rename command.

   The Rename Sheet dialog box appears.

6. Type **4Q-Budget** and press Enter.
7. Select cell A1, if necessary.
8. Select the Save button.

   The latest changes are saved to disk.

COPY A RANGE

To complete the fourth-quarter worksheet, you will copy the table of expense factors from the third-quarter budget worksheet.

1. Make sure Excel is ready.
2. Select the 3Q-Budget tab.
3. Scroll the worksheet, and select the range I1:J9.
4. Select the Copy button.
5. Select the 4Q-Budget tab.
6. Scroll the worksheet, and select cell I1.

7. Select the Paste button.

   The table is copied between sheets.

8. Select cell A1.

   Notice that all of the expense formulas calculated results based on the inserted percentages.

9. Select the 3Q-Budget tab.
10. Select cell A1.
11. Select the Save button.

    The latest changes are saved to disk in the file BUDGETS.XLS.

12. If you want to continue working with Excel, close the active workbook file; otherwise, exit the Excel program.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Insert rows and columns	Insert, Rows and Insert, Columns	Alt+i, r *and* Alt+i, c	
Insert Cells	Insert, Cells	Alt+i, e	
Delete rows and columns	Edit, Delete	Alt+e, d, r (*or* c)	
Excel's Function Wizard	Insert, Function	Alt+i, f	fx
Move range	Edit, Cut Edit, Paste	Alt+e, t *or* Ctrl+x *and* Alt+e, p *or* Ctrl+v	✂ 📋
Clear range of data and/or formats	Edit, Clear, All or Edit, Clear, Formats or Edit, Clear, Contents	Alt+e, c (a, f, *or* c) Del (contents only)	
Save data to new file	File, Save As	Alt+f, a	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Find data	Edit, Find	Alt+e, f *or* Ctrl+f	
Replace data	Edit, Replace	Alt+e, e *or* Ctrl+h	
Use Goal Seek tool	Tools, Goal Seek	Alt+t, g	
Use Solver add-in program	Tools, Solver	Alt+t, v	
Move/copy worksheet to file	Edit, Move Or Copy Sheet	Alt+e, m	
Select another worksheet	Sheet# tab	Ctrl+Page Up *or* Ctrl+Page Down	
Select Scenario	Tools, Scenario	Alt+t, c	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. automatic recalculation	**a.** Supplementary program included with applications software
2. function wizard	**b.** Built-in formula that performs true/false type of test
3. string	**c.** Named set of input values or variables that are used to calculate specific goal
4. logical function	**d.** Symbols that compare values in formulas
5. add-in program	**e.** Operation where different variables are tested for hypothetical situations
6. relational operators	**f.** Workbook set up with labels and formulas but no value data
7. scenario	**g.** Operation in which worksheet is searched for specific data, which can then be modified
8. template	**h.** Excel feature that inserts built-in formulas
9. find-and-replace	**i.** Set of contiguous characters
10. what-if analysis	**j.** Spreadsheet's ability to update formulas automatically when referenced data is changed

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. When you move a range of data, the formats associated with the source range:
   - **a.** Remain with the source range
   - **b.** Move to the next sheet
   - **c.** Move with the data to the target range
   - **d.** Copy to the target range

2. A range of data can be moved down without using the Move operation by:
   - **a.** Inserting rows above the range
   - **b.** Inserting rows below the range
   - **c.** Deleting rows above the range
   - **d.** Deleting rows below the range

3. Which operation will likely fit more columns across the width of a page?
   - **a.** Inserting blank columns
   - **b.** Decreasing columns' widths
   - **c.** Increasing columns' widths
   - **d.** Deleting unnecessary rows

4. The Goal Seek tool performs which kind of operation?
   - **a.** Find-and-replace
   - **b.** What-if analysis
   - **c.** Move worksheet
   - **d.** Name a scenario

5. Excel will enter functions and their arguments for you through the:
   - **a.** Help feature
   - **b.** Paste command
   - **c.** Formatting toolbar
   - **d.** Function Wizard

6. The IF function evaluates a logical test to determine:
   - **a.** The sum of a value range
   - **b.** The mean of a value range
   - **c.** Whether a condition is true or false
   - **d.** Whether a value range is formatted

7. You can define and solve a multi-variable problem from within a worksheet model by using the:
   - **a.** Move Or Copy Sheet command
   - **b.** Goal Seek tool
   - **c.** Function command
   - **d.** Solver add-in program

8. You can retain a set of values in a range but clear its formats with the:
   - **a.** [Del] key
   - **b.** Edit, Clear, All command
   - **c.** Edit, Delete, Entire Column command
   - **d.** Edit, Clear, Formats command

9. Substituting values in a worksheet to test the results of hypothetical situations is an example of:
   - **a.** Linking data dynamically
   - **b.** Creating a template workbook file
   - **c.** What-if analyses
   - **d.** Logical formulas

10. A dynamic link between two or more worksheets in a workbook file is established by formulas that:
    - **a.** Reference values in other workbook files
    - **b.** Reference values in the active workbook's other worksheets
    - **c.** Reference values in the active worksheet
    - **d.** Reference formulas in the active worksheet

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Suppose you are working with a large worksheet that has valuable data outside the worksheet window view and you need to separate two ranges you can see in the worksheet window with some blank rows. Which command would likely be better to use, the Insert, Rows command, the Insert, Cells command, or the Cut (and Paste) command? Why?

2. Briefly describe the logical procedure that takes place when the following IF function is entered into a worksheet:

   =IF(100>=R2>=50,(+R2+R2*0.0725),"OUTSIDE RANGE")

3. Suppose you are asked to create a series of worksheets, each of which you will use to store financial data for separate accounts. Describe the procedures you would use to (1) set up the worksheets and (2) compile totals and averages for all your accounts in another single worksheet. Could you store all of the data in a single workbook file? How would you transfer the relevant data from the separate account worksheets into the compilation worksheet? What function, if any, would you use to obtain the average (mean) for each data item? How would you calculate the totals?

4. Suppose you have a worksheet that contains a table of 100 formulas. Describe how you would set up such a worksheet so that you could test a number of variables on all of the formulas at the same time.

5. Suppose you want to analyze the effects of various interest rates on monthly loan payments for a number of different loan situations, including different terms and principal amounts. Which tool would likely be better to use, the Goal Seek tool or the Solver add-in program? Why?

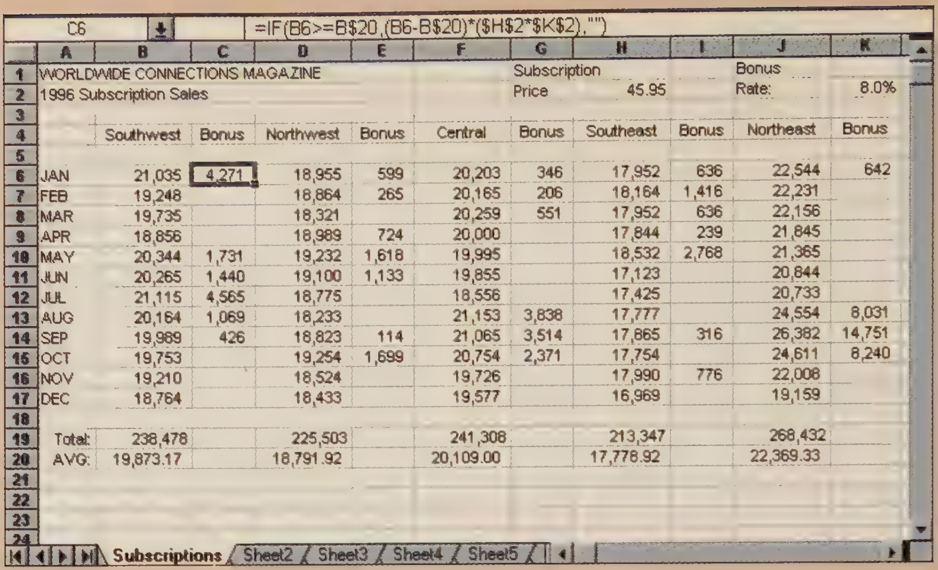
APPLICATION PROJECTS

To complete the following projects, load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary. Insert your work disk or Student Data Disk into drive A (or B). Change the working directory to the drive containing your work disk or Student Data Disk, if necessary.

1. Do the following to modify the sales-tracking worksheet so that it calculates bonuses for regional sales offices, as shown in Figure 3-28.

   a. Open the workbook file SUBSALS2.XLS stored on your work disk. If you did not do application project 1 in Lesson 2, either go back and do it now, or open the file AP2_1STW.XLS.

   b. Insert the "Bonus" columns, as shown in columns C, E, G, I, and K. Set the widths of column A and these Bonus columns to 6. Insert blank separation rows 5 and 18, as shown.



C6 =IF(B6>=B$20,(B6-B$20)*($H$2*$K$2),"")

	A	B	C	D	E	F	G	H	I	J	K
1	WORLDWIDE CONNECTIONS MAGAZINE						Subscription			Bonus	
2	1996 Subscription Sales						Price	45.95		Rate:	8.0%
3											
4		Southwest	Bonus	Northwest	Bonus	Central	Bonus	Southeast	Bonus	Northeast	Bonus
5											
6	JAN	21,035	4,271	18,955	599	20,203	346	17,952	636	22,544	642
7	FEB	19,248		18,864	265	20,165	206	18,164	1,416	22,231	
8	MAR	19,735		18,321		20,259	551	17,952	636	22,156	
9	APR	18,856		18,989	724	20,000		17,844	239	21,845	
10	MAY	20,344	1,731	19,232	1,618	19,995		18,532	2,768	21,365	
11	JUN	20,265	1,440	19,100	1,133	19,855		17,123		20,844	
12	JUL	21,115	4,565	18,775		18,556		17,425		20,733	
13	AUG	20,164	1,069	18,233		21,153	3,838	17,777		24,554	8,031
14	SEP	19,989	426	18,823	114	21,065	3,514	17,865	316	26,382	14,751
15	OCT	19,753		19,254	1,699	20,754	2,371	17,754		24,611	8,240
16	NOV	19,210		18,524		19,726		17,990	776	22,008	
17	DEC	18,764		18,433		19,577		16,969		19,159	
18											
19	Total:	238,478		225,503		241,308		213,347		268,432	
20	AVG:	19,873.17		18,791.92		20,109.00		17,778.92		22,369.33	
21											
22											
23											
24											

FIGURE 3-28

Modify the sales-tracking worksheet for application project 1 so that it looks like this. (Note: The display size of the worksheet shown here was reduced so that all of its columns are visible.)

c. Delete the column labeled "International." Delete the label "REGIONS" in cell F3.

d. Enter the subscription price in cell H2 and the bonus percentage rate in cell K2. Identify these values with the labels shown in the figure. Format the percentage rate to one decimal place.

e. Enter AVERAGE functions in row 20 to calculate the average number of subscriptions each region sold over the year. Format the results to two decimal places.

f. The company's bonus policy is to pay each regional office 8 percent of the subscription price for every subscription over the office's average for the year. To determine if a bonus was earned for each month (and its amount), enter IF functions that evaluate whether the number of subscriptions for each month exceeds the office's average over the year. If it does, include a formula that calculates the following product:

(subscriptions sold – region's average) × (subscription price × bonus rate)

If the monthly sales number is below the average, the IF function should display a blank cell. Enter two quotation marks ("") for the third argument to display a blank cell if the test proves false. Be sure to use appropriate mixed and absolute cell references in the IF function, and then copy it to the other bonus columns. An example is shown on the formula bar shown in the figure.

g. Save the file as SUBSALS3.WK1. Try some what-if analyses with this worksheet, such as what if the company increased the bonus percentage to 8.5 percent? Or, what if the subscription price is $42.50? Use the Goal Seek tool to calculate variables for specific goals.

h. Clear the workbook file without saving the what-if analyses changes.

2. Do the following to modify the quarterly inventory report worksheet for a small solar-powered automobile manufacturer shown in Figure 3-29.

   a. Open the workbook file AP32SMIR.XLS.

   b. Enter formulas to calculate beginning and ending inventory values by multiplying the unit production cost value and the corresponding values in the beginning and ending inventory value columns, respectively.

   c. Create formulas that calculate each plant's suggested retail price based on the company's markup over production costs. Use an absolute cell reference to refer to the cell containing the markup percentage.

   d. Enter SUM functions to total appropriate columns as shown. Enter AVERAGE functions below the totals row to average the values in all columns. Format the total and average results as currency with no decimal places, as shown in the figure.

   e. Save the worksheet in a workbook file named INVRPRT3.XLS. Perform what-if analyses to test different assumptions. For example, what would the markup rate be if the average suggested retail price were approximately $12,000? (Hint: Use the Goal Seek tool.)

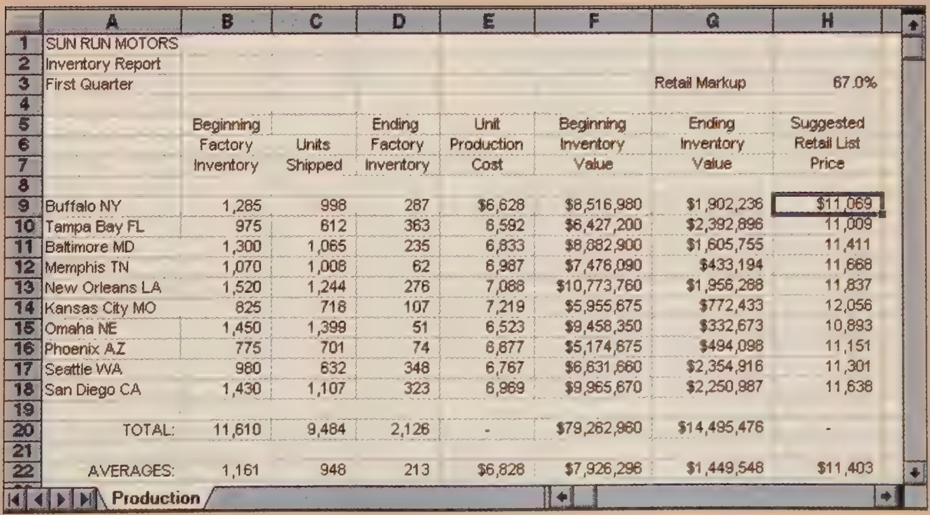
   f. Clear value ranges and edit the worksheet to create a template worksheet that can be used for the next quarter. Save the template version in a workbook file named QINRTMPL.XLS.

   g. Copy the column of ending inventory units from INVRPRT3.WK1 to a sheet other than Sheet1 in the template workbook file, and then save the changes.

   h. Close the workbook file.

FIGURE 3-29

Modify the worksheet stored in the workbook file AP32SMIR.XLS to complete application project 2.



	A	B	C	D	E	F	G	H
1	SUN RUN MOTORS							
2	Inventory Report							
3	First Quarter						Retail Markup	67.0%
4								
5		Beginning		Ending	Unit	Beginning	Ending	Suggested
6		Factory	Units	Factory	Production	Inventory	Inventory	Retail List
7		Inventory	Shipped	Inventory	Cost	Value	Value	Price
8								
9	Buffalo NY	1,285	998	287	$6,628	$8,516,980	$1,902,236	$11,069
10	Tampa Bay FL	975	612	363	6,592	$6,427,200	$2,392,896	11,009
11	Baltimore MD	1,300	1,065	235	6,833	$8,882,900	$1,605,755	11,411
12	Memphis TN	1,070	1,008	62	6,987	$7,476,090	$433,194	11,668
13	New Orleans LA	1,520	1,244	276	7,088	$10,773,760	$1,956,288	11,837
14	Kansas City MO	825	718	107	7,219	$5,955,675	$772,433	12,056
15	Omaha NE	1,450	1,399	51	6,523	$9,458,350	$332,673	10,893
16	Phoenix AZ	775	701	74	6,677	$5,174,675	$494,098	11,151
17	Seattle WA	980	632	348	6,767	$6,631,660	$2,354,916	11,301
18	San Diego CA	1,430	1,107	323	6,969	$9,965,670	$2,250,987	11,638
19								
20	TOTAL:	11,610	9,484	2,126	-	$79,262,960	$14,495,476	-
21								
22	AVERAGES:	1,161	948	213	$6,828	$7,926,296	$1,449,548	$11,403

3. Do the following to modify the water usage worksheet so that it determines a correct billing amount, as shown in Figure 3-30.

   a. Open the workbook file WATERUSE.XLS. If you did not do application project 4 in Lesson 2, either go back and do it now, or open the workbook file AP2_4WUW.XLS.

   b. Delete row 7 to modify the rate table as shown, and delete the label in cell B1.

   c. Replace the formulas in the AMOUNT column with IF functions that evaluate the number of CCFs to determine the correct billing amount. One example is shown on the Formula bar in the figure. Make sure you copy an IF function to cell D15, which will automatically calculate the next bill's amount based on the number of CCFs entered.

   d. Suppose you take a meter reading on the morning of 1/14 and see that 21 CCFs have been used since the last billing date. Enter the reading in the CCFs column to calculate the number of gallons, the billing amount, and the estimated usage cost for November and December.

   e. Enter the data for the next 60-day billing period (1/14 to 3/15), and estimate the next bill based on a conservative use of 16 CCFs.

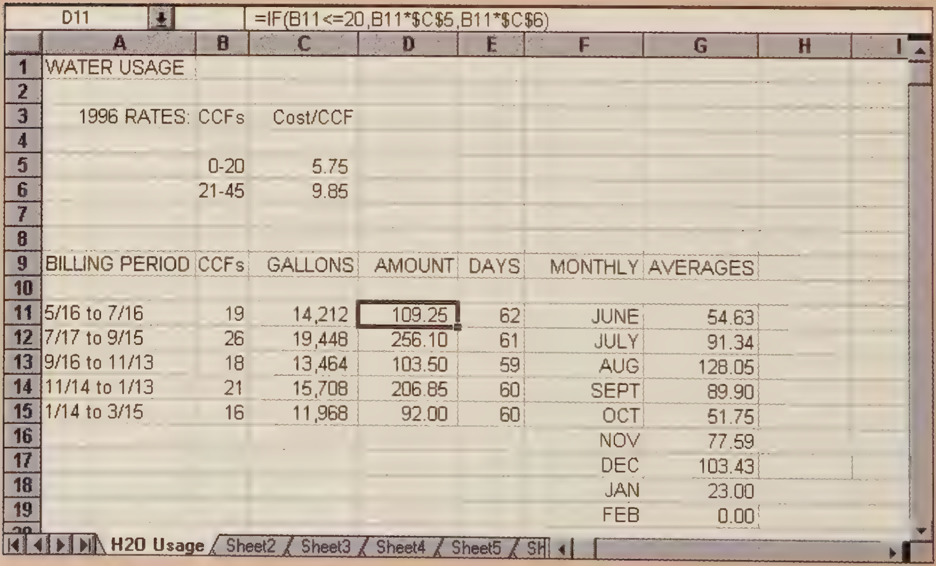
   f. Save the worksheet in a workbook file named WATRUSE2.XLS.

   g. Erase the value ranges to create a template workbook file. Save the template in a workbook file named WATERTMP.XLS.

   h. Exit the Excel program.

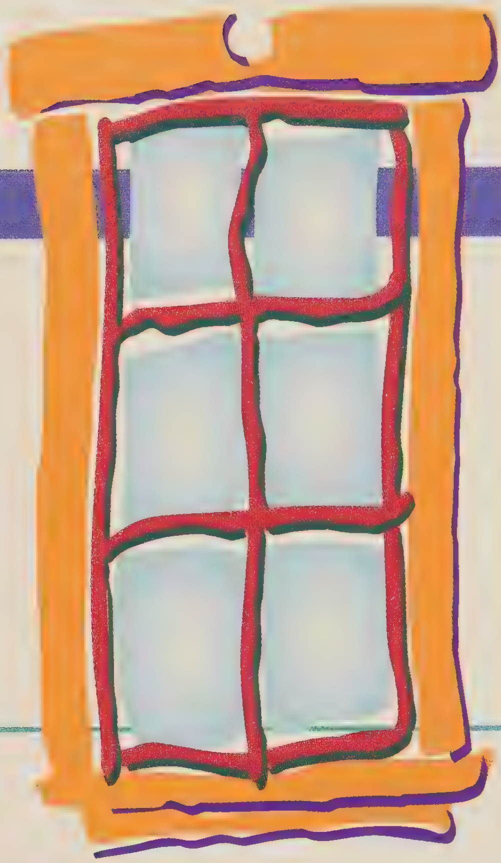
FIGURE 3-30

Modify the water-usage worksheet for application project 3 so that it looks like this.



D11 =IF(B11<=20,B11*$C$5,B11*$C$6)

	A	B	C	D	E	F	G	H
1	WATER USAGE							
2								
3	1996 RATES:	CCFs	Cost/CCF					
4								
5		0-20	5.75					
6		21-45	9.85					
7								
8								
9	BILLING PERIOD	CCFs	GALLONS	AMOUNT	DAYS	MONTHLY	AVERAGES	
10								
11	5/16 to 7/16	19	14,212	109.25	62	JUNE	54.63	
12	7/17 to 9/15	26	19,448	256.10	61	JULY	91.34	
13	9/16 to 11/13	18	13,464	103.50	59	AUG	128.05	
14	11/14 to 1/13	21	15,708	206.85	60	SEPT	89.90	
15	1/14 to 3/15	16	11,968	92.00	60	OCT	51.75	
16						NOV	77.59	
17						DEC	103.43	
18						JAN	23.00	
19						FEB	0.00	



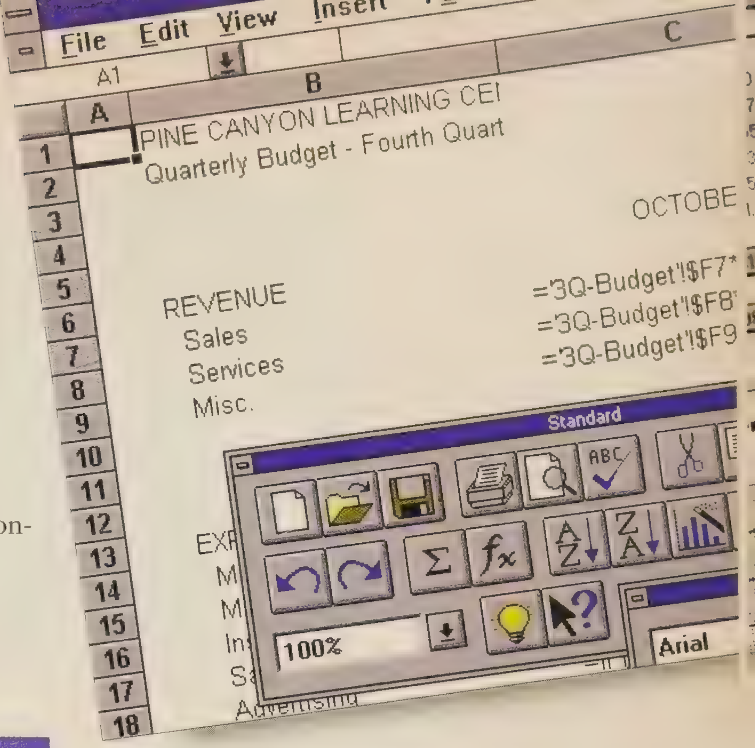
LESSON 4

CUSTOMIZING EXCEL AND SETTING UP PRINTED PAGES

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Change program options.*
- *Customize the Excel program window.*
- *Modify the display size of the worksheet.*
- *Freeze and unfreeze panes with column or row labels in the worksheet window.*
- *Split the worksheet window into panes to view different worksheet areas simultaneously.*
- *Adjust margins for printed worksheet documents.*
- *Set up headers and footers.*
- *Set print titles for multipage documents.*
- *Insert page breaks.*
- *Use the Print Preview window.*



The first three lessons in this book cover a wide range of basic and advanced worksheet editing and formatting techniques. In this lesson we will turn to Excel features that allow you to customize the program, your working (on-screen or desktop) environment, and the appearances of your printed worksheet documents.

CHANGING PROGRAM OPTIONS

There are a variety of options at your disposal for customizing the display of the Excel program window, modifying the operations of certain tasks, and customizing the display of the worksheet in the worksheet window. The Options command on the Tools pull-down menu displays the Options dialog box shown in Figure 4-1. As you can see, this dialog box presents ten labeled tabs that categorize the sets of options that control the different aspects of the program. In this section we'll take a closer look at five of these option sets: General, View, Edit, Calculation, and Color.

USING GENERAL OPTIONS

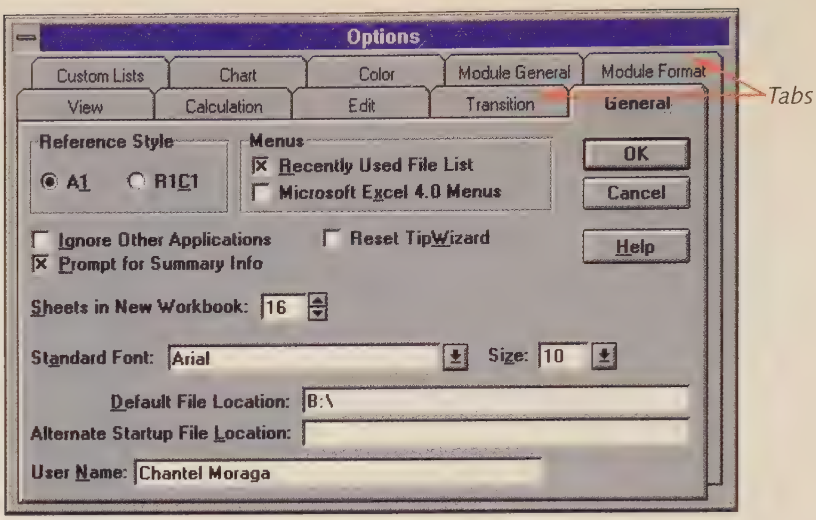
You were introduced to the General options shown in Figure 4-1 in Lesson 1, when you learned how to change the Default File Location setting to set up your working directory. Within this set of options are "boxed" option groups. The Reference Style group contains two radio buttons that affect the display of cell references in the Name box and cell references the program enters into formulas. If the R1C1 option is active, the column letters on the worksheet frame are replaced by numbers. This setting causes the program to refer to cells by their row numbers and column numbers. For example, the reference for cell CU469 appears as R469C99.

The Menus group contains two check box options. The first toggles the display of the four most recently used workbook file names on the File menu. When this option is on, the last four workbook files that you worked with appear near the bottom of the File menu, just above the Exit command. This allows you to open one of these files directly by selecting the file name. The second check box option in this group allows you to change the display of the Menu bar to the way it appears in the previous version of Excel.

The Prompt For Summary Info check box option allows you to toggle whether the Summary Info dialog box appears whenever you save a workbook file. This dialog box, shown in Figure 4-2, allows you to document

FIGURE 4-1

The Options dialog box contains an extensive set of options that allow you to customize the Excel program.



Reference Style: ● A1 ○ R1C1

Menus: ☒ Recently Used File List ☐ Microsoft Excel 4.0 Menus

☐ Ignore Other Applications

☒ Prompt for Summary Info

☐ Reset TipWizard

Sheets in New Workbook: 16

Standard Font: Arial

Size: 10

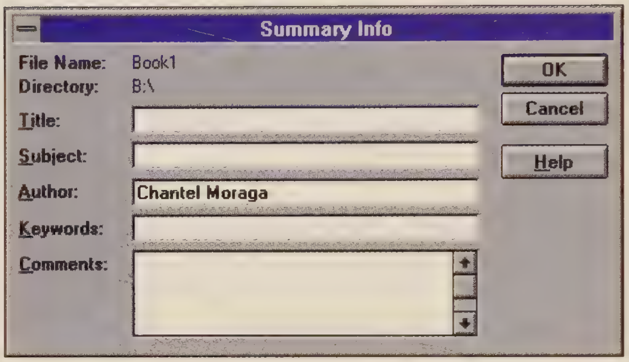
Default File Location: B:\

Alternate Startup File Location:

User Name: Chantel Moraga

FIGURE 4-2

Excel is set up to display the Summary Info dialog box, by default, whenever you save a workbook file. However, you can turn this feature off if you wish.



File Name: Book1

Directory: B:\

Title:

Subject:

Author: Chantel Moraga

Keywords:

Comments:

your workbook files with information that helps you to manage them. This option is on by default, when the Excel program is installed. Documenting your files is advisable for good organization. However, if you do not need to document your files, you can turn this option off.

TIP

The Summary Info command on the File pull-down menu displays this dialog box, into which you can enter information to document the active workbook file.

Other General options allow you to set the number of available sheets (worksheets) in all new workbook files (16, by default); the typeface and size for the standard font; and the active User Name, which is your name, that appears in the Summary Info dialog box when files are saved. Typefaces and fonts will be discussed in Lesson 5.

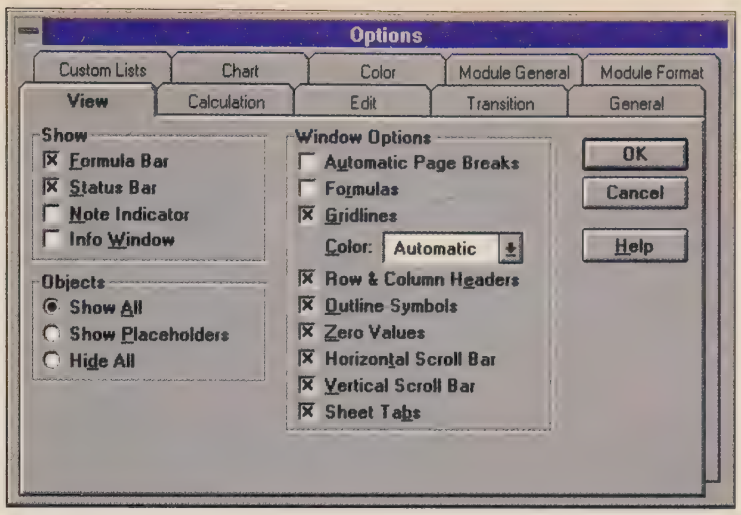
You can also enter a path, or disk location, for the Alternate Startup File Location setting. This disk location contains files you want to open automatically each time Excel is started.

USING VIEW OPTIONS

The set of View options, shown in Figure 4-3, allows you to customize the appearance of Excel's program window and control the display of

FIGURE 4-3

This set of View options becomes active when you select the View tab in the Options dialog box.



Show
☒ Formula Bar
☒ Status Bar
☐ Note Indicator
☐ Info Window

Objects
● Show All
○ Show Placeholders
○ Hide All

Window Options
☐ Automatic Page Breaks
☐ Formulas
☒ Gridlines
Color: Automatic
☒ Row & Column Headers
☒ Outline Symbols
☒ Zero Values
☒ Horizontal Scroll Bar
☒ Vertical Scroll Bar
☒ Sheet Tabs

selected items in the worksheet window. In the Show box there are four check box options that toggle the display of the Formula bar, the Status bar, note indicators, and the Info window, respectively. The Formula bar and the Status bar can be toggled on and off by selecting the same commands on the View pull-down menu. (This menu will be discussed in more detail later.) These settings are not saved when you save changes to your workbook files. A note indicator appears as a small red dot in a cell when there is a note attached to a cell. The Info window is a full-screen window that you can display to view information on a cell, range, or worksheet.

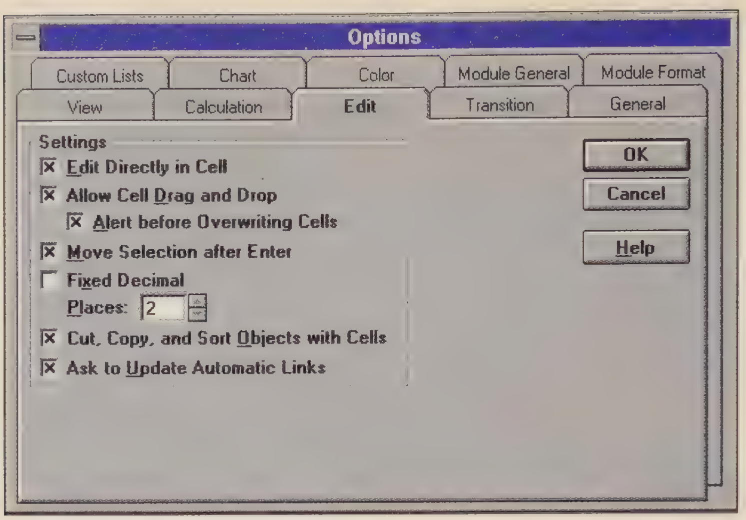
The Objects group contains three radio button options that control the display of embedded objects in worksheets. An **embedded object** is a picture, chart, graph, or any other element other than text or numbers that you insert into a worksheet range. Often these items are generated in other types of applications and imported into the workbook file, but charts can also be created and inserted as embedded objects in a worksheet. You will learn more about charts in Lesson 5.

By default, objects are set to display when they are inserted in a worksheet (with the Show All option). The Show Placeholders option causes embedded objects, such as pictures and charts, to appear as gray rectangles. This option is beneficial to conserve memory, since displaying pictures and charts slows the scrolling of a worksheet significantly.

The Window Options group contains a set of nine check box options, plus a drop-down list option that controls the color of the display of gridlines in the worksheet window. These options allow you to toggle on and off the display of worksheet window elements, including the horizontal and vertical scroll bars, the strip of sheet tabs, row and column headers (the worksheet frame), gridlines, and the display of zero values.

USING EDIT OPTIONS

Figure 4-4 shows the set of Edit options, which consists of seven check box options in the Settings group. These options affect the manner in which certain editing techniques are handled by the Excel program. For



Settings

☒ Edit Directly in Cell
☒ Allow Cell Drag and Drop
 ☒ Alert before Overwriting Cells
☒ Move Selection after Enter
☐ Fixed Decimal
 Places: 2
☒ Cut, Copy, and Sort Objects with Cells
☒ Ask to Update Automatic Links

FIGURE 4-4

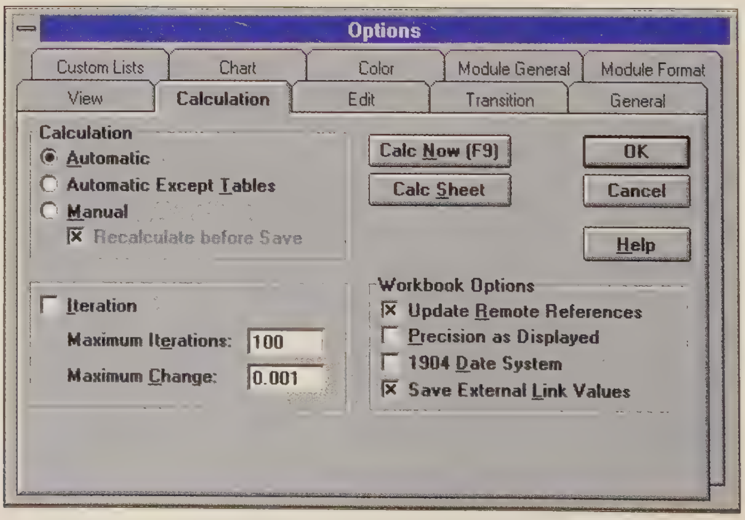
This set of Edit options becomes active when you select the Edit tab in the Options dialog box.

example, when the Edit Directly In Cell option is toggled on (which it is by default), you can edit entries directly in cells as well as on the Formula bar. When this option is off, you can only edit the entry on the Formula bar.

Other options in this group control the way you can copy or move data with the mouse, the number of decimal places for values in unformatted cells, and whether Excel prompts you before you overwrite existing data with data you are copying or moving. For most users, these default settings are sufficient and should require infrequent changes, if any.

USING CALCULATION OPTIONS

The set of Calculation options shown in Figure 4-5 controls the manner in which Excel handles recalculation of formulas in worksheets. Notice that, by default, worksheets are set for automatic recalculation. As we mentioned in Lesson 3, automatic recalculation causes all formulas to recalculate every time referenced data is edited. For most users, the default settings for this set of options are sufficient and do not need to be adjusted.



Calculation

● Automatic
○ Automatic Except Tables
○ Manual
 ☒ Recalculate before Save

☐ Iteration
 Maximum Iterations: 100
 Maximum Change: 0.001

Workbook Options

☒ Update Remote References
☐ Precision as Displayed
☐ 1904 Date System
☒ Save External Link Values

FIGURE 4-5

This set of Calculation options becomes active when you select the Calculation tab in the Options dialog box.

USING COLOR OPTIONS

The set of Color options shown in Figure 4-6 shows you the current color options available for worksheets, chart elements, and other elements for which there are color options. The Standard Colors color list is the standard color palette for workbook files. A **palette** is the available selection of colors that appears when you select any Excel option that allows you to adjust color (for example, changing patterns for ranges). You will learn more about using colors in worksheets and charts in Lesson 5.

When you select the Modify command button in the Options dialog box for the Color set, the Color Picker dialog box shown in Figure 4-7 appears.

FIGURE 4-6

This set of Color options becomes active when you select the Color tab in the Options dialog box.

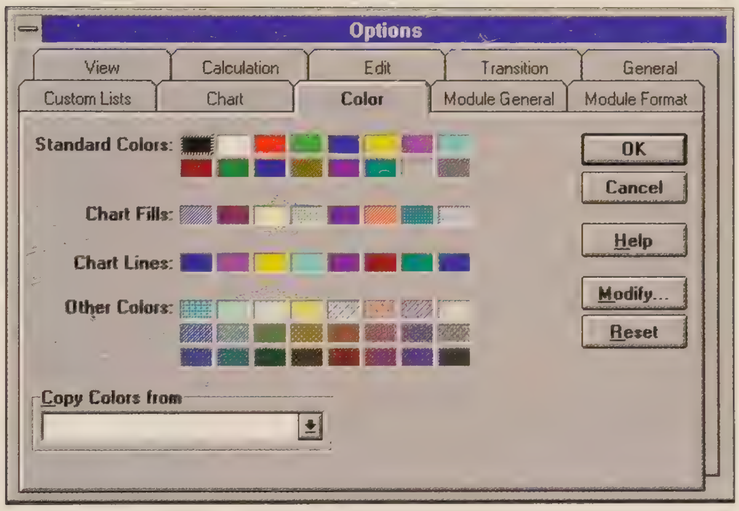
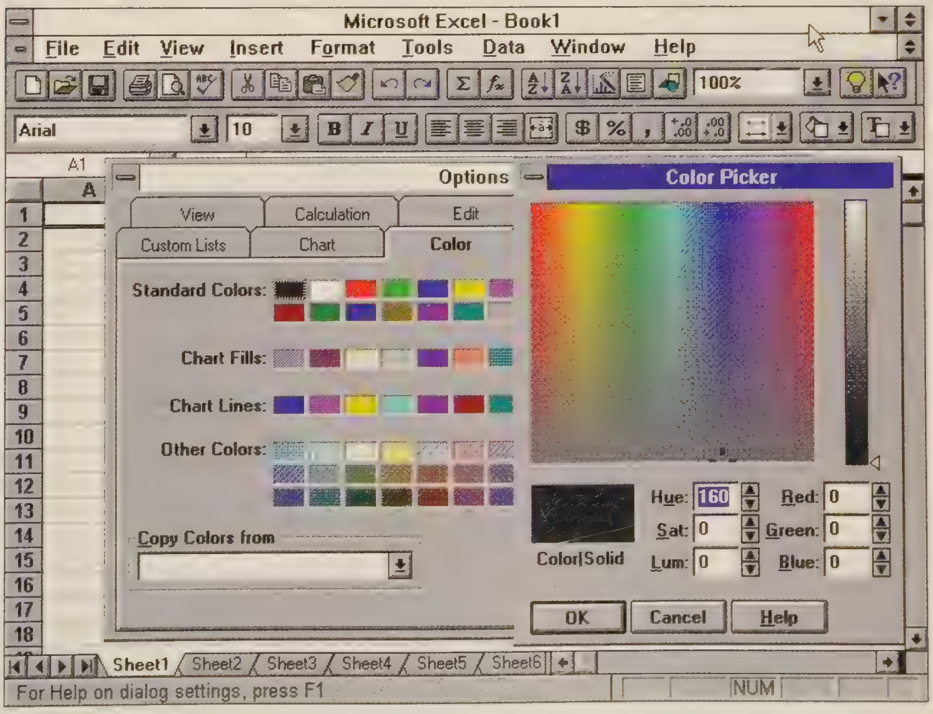


FIGURE 4-7

The Color Picker dialog box allows you to edit colors on the standard color palette.



100%

Arial 10

Hue: 160 Red: 0

Sat: 0 Green: 0

Lum: 0 Blue: 0

For Help on dialog settings, press F1

This is a color editing tool that requires some expertise in making fine-tuning adjustments to colors on the standard palette. Editing the color palette is beyond the scope of this book. However, you can select the Help command button to get some information about editing colors.

VIEWING OTHER OPTION SETS

The options categorized for the Chart, Custom Lists, Module Format, Module General, and Transition tabs offer settings for more advanced features that do not have much impact on the basic worksheet concepts covered in this book. If you need more information for any of these option sets, you can select its tab in the Options dialog box and select the Help command button to get context-specific information about the active set.

CHANGE PROGRAM OPTIONS

You will experiment with various Options settings to customize the display and functioning of the Excel program.

1. Load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary.
2. Make sure Excel is ready.
3. Select the Open button.

   The Open dialog box appears.
4. If necessary, select the correct file location (drive A or B) where your work disk is located.
5. Double-click on the workbook file name BUDGETS.XLS.

   The workbook file loads, and the worksheet named 3Q-Budget is active.
6. Select the 4Q-Budget tab.

   The fourth-quarter budget worksheet is active.
7. Select the Tools pull-down menu.
8. Select the Options command.

   The Options dialog box appears.
9. Select the View tab, if necessary.

   The set of View options is active.
10. Select the Formulas option in the Window Options group to place an *X* in its check box.

    Make sure an X *appears in the Formulas option's check box.*

11. Select the Gridlines option in the Window Options group to remove the X from its check box.

    Make sure the Gridlines option's check box is empty.

12. Select the OK command button.

    The worksheet is active with wider columns, no gridlines, and all formulas (instead of their results) display in their cells, as shown in Figure 4-8.

13. Select the Tools pull-down menu.

14. Select the Options command.

15. If necessary, select the View tab.

16. Select the Formula Bar option in the Show group.

    The X is removed from the check box to turn off the option.

17. Select the Status Bar option in the Show group.

    The X is removed from the check box to turn off the option.

18. Select the Sheet Tabs option in the Window Options group.

    The X is removed from the check box to turn off the option.

19. Select the OK command button.

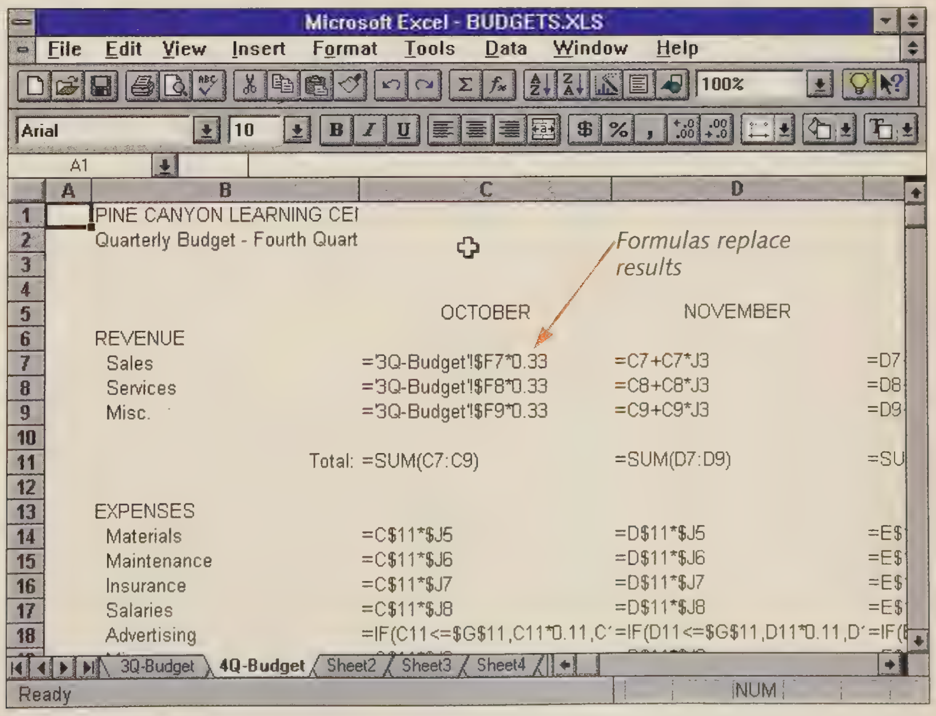
    The fourth-quarter budget worksheet is active. Notice that the Formula bar, Status bar, and sheet tabs no longer appear on screen.

20. Select the Save button.

    The latest changes are saved to disk.

FIGURE 4-8

After you turn on the Formulas option, all formulas in the active worksheet appear in their cells, instead of their results.



	A	B	C	D	
1		PINE CANYON LEARNING CE			
2		Quarterly Budget - Fourth Quart			
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SU
12					
13		EXPENSES			
14		Materials	=C$11*$J5	=D$11*$J5	=E$
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$
16		Insurance	=C$11*$J7	=D$11*$J7	=E$
17		Salaries	=C$11*$J8	=D$11*$J8	=E$
18		Advertising	=IF(C11<=$G$11,C11*0.11,C	=IF(D11<=$G$11,D11*0.11,D	=IF(

Formulas replace results

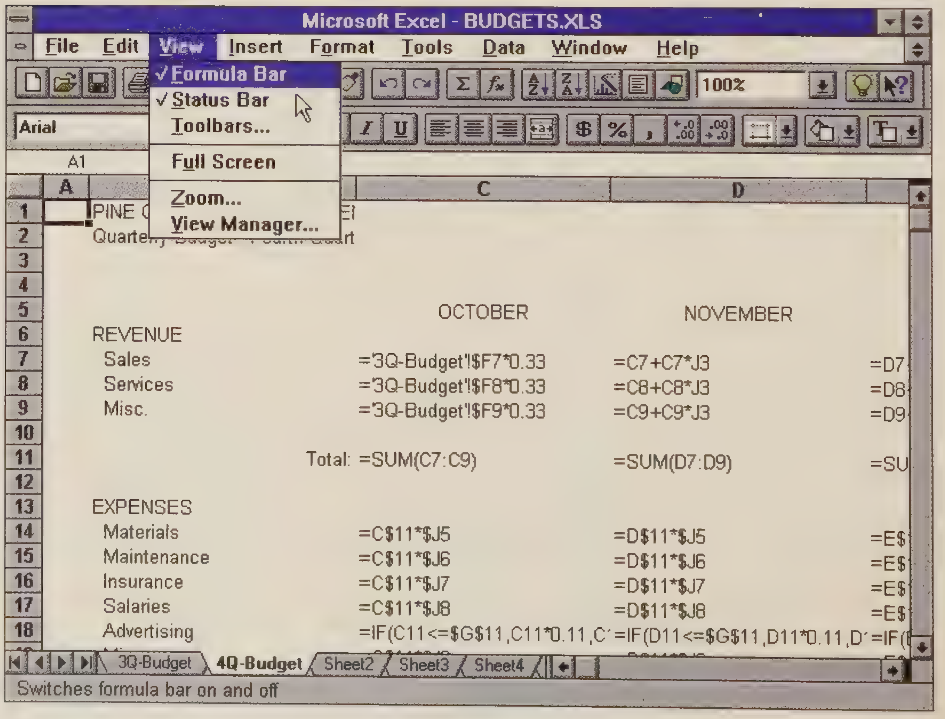
CUSTOMIZING THE PROGRAM WINDOW'S DISPLAY

There are a number of ways that you can make adjustments to the display of the Excel program window and the display of worksheet data in the worksheet window. Generally you make adjustments to the program window's display so that you can see more of the worksheet area in the worksheet window when you need to. You also make adjustments to these elements so that the tools you use frequently are within comfortable access for your needs.

Because the display of elements like the Formula bar, the Status bar, and the various toolbars take up screen area, the more of these elements that you have on, the less room there is for displaying the data in the worksheet. Sometimes it is more efficient to have these elements turned on and available, especially when you are formatting cells and selecting options. Other times—for example, when you are entering and editing data—it is beneficial to be able to view more of the worksheet area.

The View pull-down menu shown in Figure 4-9 contains three toggle commands: Formula bar, Status bar, and Full Screen. When these commands are active (turned on) they appear on the menu with check marks. The Formula bar and the Status bar commands toggle on and off the display of these Excel program window elements. The Full Screen command toggles on and off a mode of display that adjusts the program window so that more of the worksheet area can be viewed in the worksheet window. This command hides the display of the program window's Title bar and the display of the Standard and Formatting toolbars. However, you can always toggle on the display of any toolbar, even if you have the Full Screen command toggled on.

FIGURE 4-9
The View pull-down menu contains commands for controlling the display of the program and worksheet windows.



	A		C	D	
1		PINE C	EI		
2		Quarte	rt		
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SU
12					
13		EXPENSES			
14		Materials	=C$11*$J5	=D$11*$J5	=E$
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$
16		Insurance	=C$11*$J7	=D$11*$J7	=E$
17		Salaries	=C$11*$J8	=D$11*$J8	=E$
18		Advertising	=IF(C11<=$G$11,C11*0.11,C′	=IF(D11<=$G$11,D11*0.11,D′	=IF(

Switches formula bar on and off

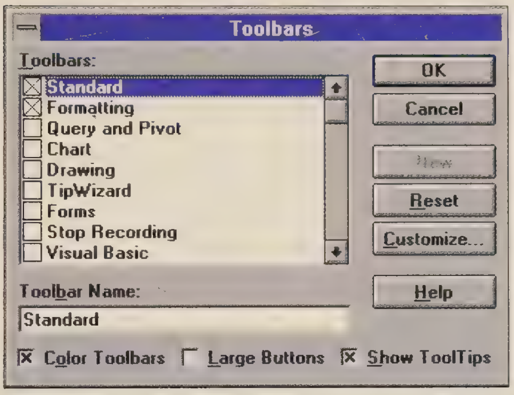
CONTROLLING THE DISPLAY OF TOOLBARS

The Toolbars command on the View pull-down menu displays the Toolbars dialog box shown in Figure 4-10. You use this dialog box to control the display of toolbars and to customize toolbars with different buttons. The Toolbars list includes the names of toolbars that are available with the Excel program and their associated check boxes. You can toggle on and off the display of any toolbar simply by selecting its check box. An *X* in the box means the toolbar is toggled on and will display in the program window. A blank check box means the display of the toolbar is turned off.

At the bottom of the Toolbars dialog box there are three check box options that let you customize the display of the toolbars that are toggled on. Toolbars display in color when the Color Toolbars check box option is toggled on, which it is by default. The Show ToolTips option causes the name of a button to appear in a small box when the mouse cursor is positioned over the button. The Large Buttons option, which is toggled off by default, causes the toolbar buttons to appear larger, as shown in Figure 4-11.

FIGURE 4-10

The Toolbars dialog box allows you to select which toolbars you want to display in the program window. You can also use this dialog box to customize toolbars.



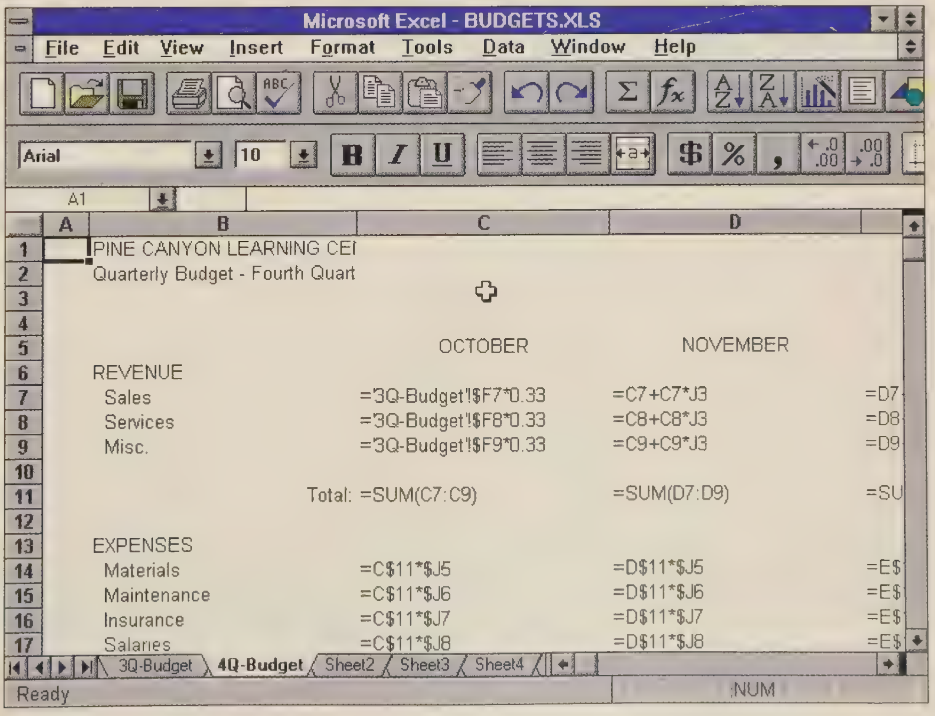
Toolbars:
☒ Standard
☒ Formatting
☐ Query and Pivot
☐ Chart
☐ Drawing
☐ TipWizard
☐ Forms
☐ Stop Recording
☐ Visual Basic

Toolbar Name: Standard

☒ Color Toolbars ☐ Large Buttons ☒ Show ToolTips

FIGURE 4-11

Turning on the Large Buttons option in the Toolbars dialog box enlarges the display of the buttons in all active toolbars.



	A	B	C	D	
1		PINE CANYON LEARNING CE			
2		Quarterly Budget - Fourth Quart			
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SU
12					
13		EXPENSES			
14		Materials	=C$11*$J5	=D$11*$J5	=E$
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$
16		Insurance	=C$11*$J7	=D$11*$J7	=E$
17		Salaries	=C$11*$J8	=D$11*$J8	=E$

RESIZING TOOLBARS WITH THE MOUSE

The display of toolbars is not limited to the strips you typically see spanning the width of the program window. It is possible to change their sizes and move them around the screen, if you desire.

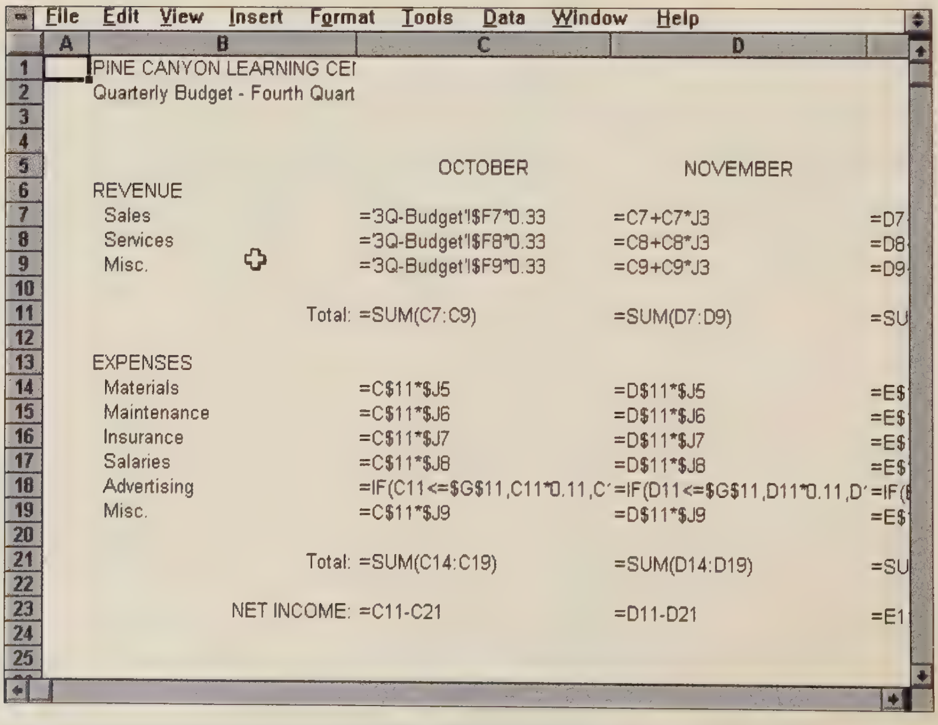
To resize a toolbar, position the mouse cursor anywhere over the toolbar, but not directly over a button. Then double-click with the left mouse button. This action changes the toolbar so that it resembles a dialog box or window, complete with its own Title bar. As with any dialog box or window in the Windows environment, you can then move the toolbar by dragging its Title bar to another location. To return the toolbar to its previous display status, simply double-click on it again. You can also drag the toolbar's borders to modify its size.

CUSTOMIZE THE PROGRAM WINDOW

Now you will experiment with some settings that affect the Excel program window.

1. Make sure Excel is ready.
2. Select the View pull-down menu.
3. Select the Full Screen command to toggle it on.

   Excel hides the program window's Title bar, Standard toolbar, and Formatting toolbar. Your screen should appear similar to the one shown in Figure 4-12.



	A	B	C	D	
1		PINE CANYON LEARNING CEI			
2		Quarterly Budget - Fourth Quart			
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SU
12					
13		EXPENSES			
14		Materials	=C$11*$J5	=D$11*$J5	=E$
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$
16		Insurance	=C$11*$J7	=D$11*$J7	=E$
17		Salaries	=C$11*$J8	=D$11*$J8	=E$
18		Advertising	=IF(C11<=$G$11,C11*0.11,C	=IF(D11<=$G$11,D11*0.11,D	=IF(
19		Misc.	=C$11*$J9	=D$11*$J9	=E$
20					
21		Total:	=SUM(C14:C19)	=SUM(D14:D19)	=SU
22					
23		NET INCOME:	=C11-C21	=D11-D21	=E1
24					
25					

FIGURE 4-12
After you turn on the Full Screen option, the worksheet window occupies more screen area.

4. Select the View pull-down menu.
5. Select the Full Screen command to toggle it off.

   The Title bar and the Standard and Formatting toolbars appear.
6. Select the View pull-down menu.
7. Select the Toolbars command.

   The Toolbars dialog box appears.
8. Click on the vertical scroll bar for the Toolbars list, anywhere below its scroll box.

   The bottom of the list scrolls into view. Notice that the last item on the list toggles on the Full Screen option.
9. Select the Large Buttons option at the bottom of the dialog box.

   An X appears in the option's check box to show it is toggled on.
10. Select the OK command button.

    The fourth-quarter budget worksheet is again active; your screen should appear similar to Figure 4-13.
11. Position the mouse cursor anywhere over the Standard toolbar, but not over a button.
12. Double-click on the Standard toolbar.

    The Standard toolbar becomes a dialog box with a Title bar.

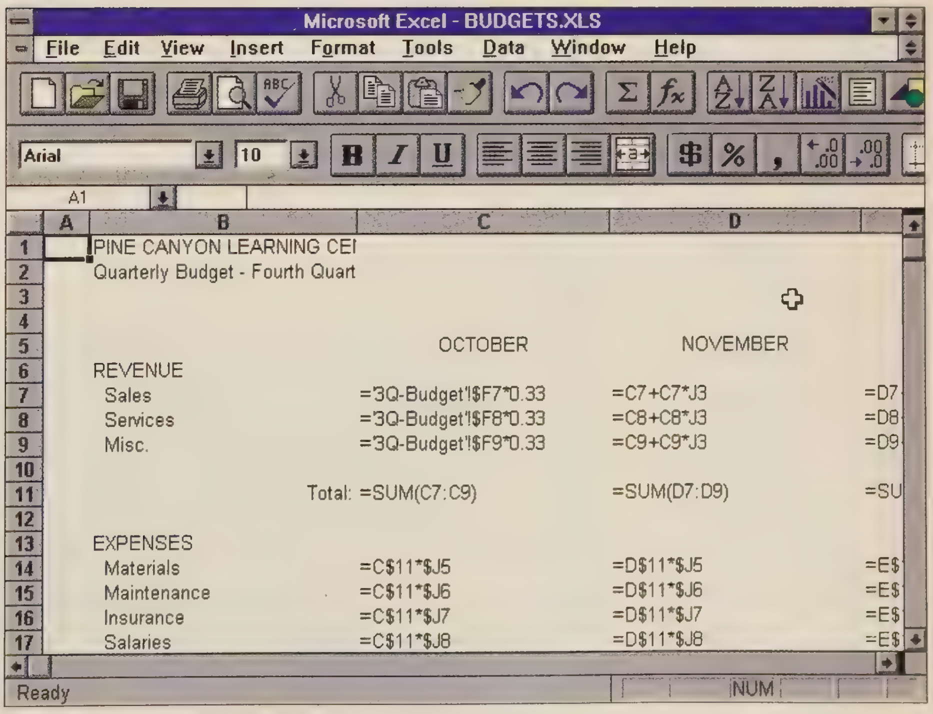


FIGURE 4-13
Your screen should appear similar to this after you change selected options.

	A	B	C	D	
1		PINE CANYON LEARNING CEI			
2		Quarterly Budget - Fourth Quart			
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SU
12					
13		EXPENSES			
14		Materials	=C$11*$J5	=D$11*$J5	=E$
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$
16		Insurance	=C$11*$J7	=D$11*$J7	=E$
17		Salaries	=C$11*$J8	=D$11*$J8	=E$

13. Position the mouse cursor anywhere over the Formatting toolbar, but not over a button.

14. Double-click on the Formatting toolbar.

The Formatting toolbar becomes a dialog box with a Title bar.

15. Resize the toolbar windows and drag them to the bottom of the program window, as shown in Figure 4-14.

16. Double-click on the Standard toolbar.

The Standard toolbar returns to the top of the program window.

17. Double-click on the Formatting toolbar.

The Formatting toolbar returns to the top of the program window.

18. Select the View pull-down menu.

19. Select the Toolbars command.

The Toolbars dialog box appears.

20. Select the Large buttons option to turn it off.

21. Select the OK command button.

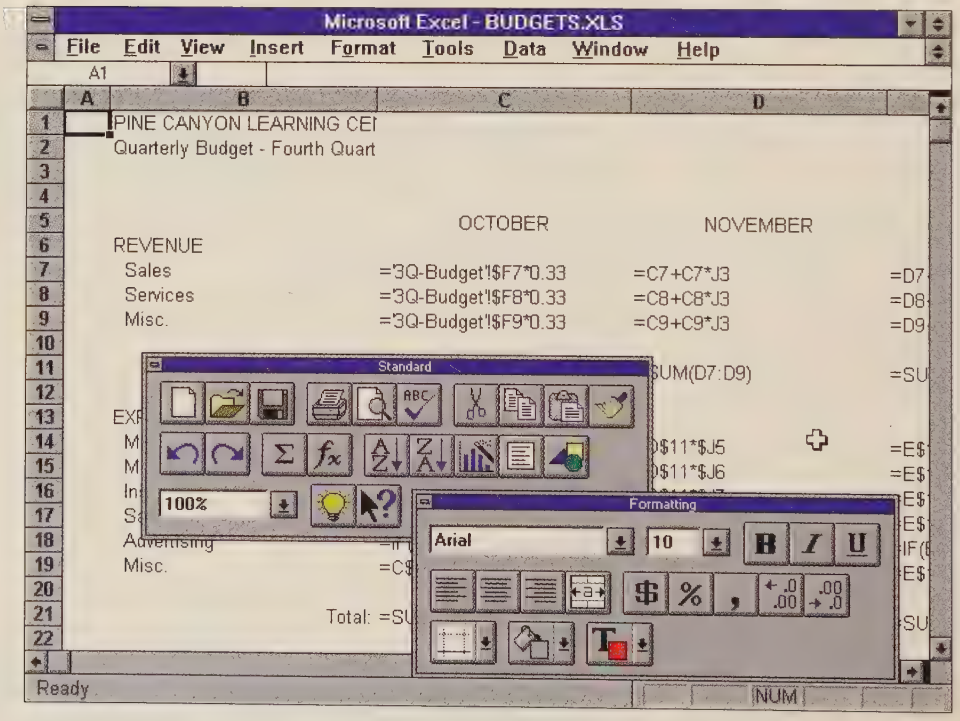
The sizes of the buttons return to normal.

22. Select the Save button.

The latest changes are saved to disk.

FIGURE 4-14

Resize the Standard and Formatting toolbars and then drag them to the bottom of the worksheet window so that your screen appears like this.


Microsoft Excel - BUDGETS.XLS
File Edit View Insert Format Tools Data Window Help
A1
Standard
100%
Formatting
Arial
10
B I U
$ %
Ready
NUM

	A	B	C	D	
1		PINE CANYON LEARNING CEI			
2		Quarterly Budget - Fourth Quart			
3					
4					
5			OCTOBER	NOVEMBER	
6		REVENUE			
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9
10					
11				SUM(D7:D9)	=SU
12					
13		EX			
14		M		$11*$J5	=E$
15		M		$11*$J6	=E$
16		In			E$
17		S			E$
18			=I		IF(
19		Misc.	=C$		E$
20					
21			Total: =SU		SU
22					

MODIFYING THE WORKSHEET WINDOW'S DISPLAY

Excel's graphical environment gives you a lot of flexibility to modify the display size of the worksheet window view, especially when you need to either view a larger area of data at one time or focus in on a smaller area. Some of these advantages will become more meaningful in the next lesson when you learn to work with Excel's charting features.

You can use Excel's Zoom feature to enlarge or reduce the display size of the worksheet in the worksheet window. The Zoom command on the View pull-down menu, which displays the Zoom dialog box shown in Figure 4-15, allows you to select a preset reduced size (75%, 50%, 25%, or Fit Selection) or a preset enlarged size (200%). You can also customize the view by specifying any percentage value between 10 and 400 percent. Alternatively, you can select the preset enlargement or reduction sizes from a drop-down menu on the Standard toolbar. To set a custom size on the Standard toolbar, click on the Zoom Control indicator to highlight the current display size and type another size. Then press Enter.

REDUCE THE WORKSHEET WINDOW'S DISPLAY SIZE

You will experiment with a few of Excel's Zoom reduction settings.

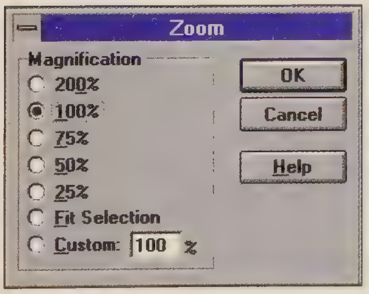
1. Make sure Excel is ready.
2. Select the View pull-down menu.
3. Select the Zoom command.

   The Zoom dialog box appears.

4. Select the 50% radio button in the Magnification selection box.
5. Select the OK command button.

   The worksheet window view reduces to 50 percent.

6. Select the Zoom Control indicator's drop-down list arrow on the Standard toolbar.



○ 200%
● 100%
○ 75%
○ 50%
○ 25%
○ Fit Selection
○ Custom: 100 %

FIGURE 4-15

The Zoom dialog box allows you to enlarge or reduce the display size of the worksheet in the worksheet window.

7. Select the 200% option. (Scroll the list if you cannot see the 200% option.)

   The worksheet window view enlarges to 200 percent. Notice that you can only view a few cells at this display size.

8. Scroll the worksheet, and select cell C18.

9. Select the Zoom Control indicator's drop-down list arrow on the Standard toolbar.

   The current setting, 200%, highlights.

10. Select the Selection option.

    The worksheet window view enlarges to 308 percent (or a magnification close to this), as shown in Figure 4-16.

11. Select the 308% on the Zoom Control indicator.

    The current magnification highlights.

12. Type 65 and press Enter.

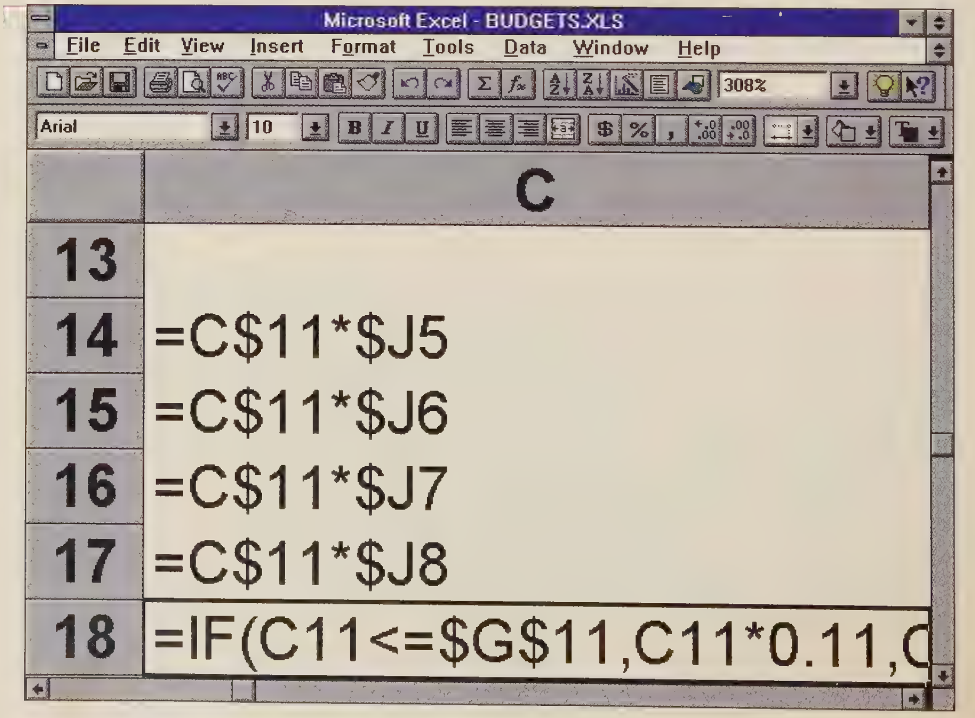
    The worksheet window view reduces to 65 percent.

FREEZING WORKSHEET WINDOW PANES

While working on your budget worksheet, you might have noticed that column and row labels disappear from view in the worksheet window as you move the cell cursor, which, in turn, scrolls the worksheet. Recall that **scrolling** refers to the movement of the entire worksheet in relation to the

FIGURE 4-16

After you enlarge the worksheet view to fit the selected cell across the width of the worksheet window, your screen should look similar to this.



13
14 =C$11*$J5
15 =C$11*$J6
16 =C$11*$J7
17 =C$11*$J8
18 =IF(C11<=$G$11,C11*0.11,

worksheet window view. That is, the worksheet appears to scroll upward as the worksheet window moves downward with the cell cursor's movement beyond the last row in the window. Similarly, the worksheet appears to scroll to the left as the cell cursor moves to the right.

When you edit large worksheets, it can be difficult to work with data accurately when column and/or row labels that identify the data scroll off screen. Without identifying labels in view, it is sometimes difficult to know what the data in the active cell represents. However, you can use the Freeze Panes command on the Window pull-down menu to "freeze" on screen columns and rows that contain identifying labels, depending on which way the worksheet is scrolling. The Freeze Panes command is a toggle that lets you freeze one or more columns, one or more rows, or a combination of one or more columns and rows. The general procedure is as follows:

- Position the cell cursor on the row that is directly beneath the last row you want to freeze and/or on the column that is directly to the right of the last column you want to freeze.
- Select the Window pull-down menu.
- Select the Freeze Panes command.

After you toggle on the Freeze Panes command, the command changes to Unfreeze Panes on the Window pull-down menu. Use this command to toggle off frozen panes.

FREEZE WORKSHEET WINDOW PANES

You will modify your working environment by toggling on the Freeze Panes command to freeze the labels in rows 1-5 and columns A and B in your active budget worksheet.

1. Make sure Excel is ready.
2. Press Ctrl+Home to move the cell cursor to cell A1.
3. Select cell C6.

   The active cell is immediately below the range of rows you want to freeze and to the immediate right of the range of columns you want to freeze.

4. Select the Window pull-down menu.
5. Select the Freeze Panes command.

   Rows 1–5 and columns A and B display as frozen panes in the worksheet window.

6. Press Page Down.

   The worksheet scrolls upward one screen's depth in the worksheet window. Notice that rows 1–5 remain displayed on screen, as shown in Figure 4-17.

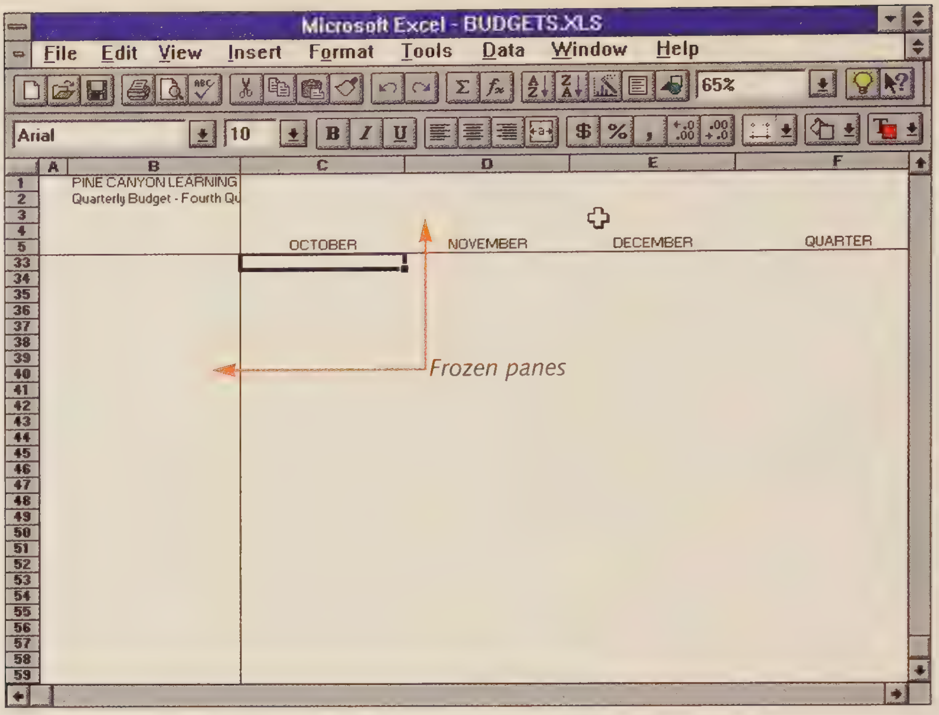


FIGURE 4-17

The frozen panes display the same columns and rows regardless of where the cell cursor is moved to scroll the worksheet.

7. Press [Alt]+[Page Down].

The worksheet scrolls left one screen's width in the worksheet window. Notice that rows 1–5 and columns A and B remain displayed on screen, and the active cell is at the edges of both frozen panes.

8. Press [Ctrl]+[Home].

The cell cursor returns to cell C6, which is now the home position while the Freeze Panes command is toggled on.

9. Press [F5].

The Go To dialog box appears.

10. Type **hi12000** and press [Enter].

The cell cursor is at the specified cell, HI12000. Notice that the frozen panes still display columns A and B and rows 1–5 in the worksheet window.

11. Press [Ctrl]+[Home].

The cell cursor returns to cell C6.

12. Select the Window pull-down menu.

13. Select the Unfreeze Panes command.

The worksheet window no longer has frozen panes.

SPLITTING THE WORKSHEET WINDOW

Sometimes it is convenient to view two areas of the worksheet at the same time. Excel allows you to split the worksheet window into side-by-side (vertical) windows, as shown in Figure 4-18, or top and bottom (horizontal) windows, as shown in Figure 4-19. The general procedure is as follows:

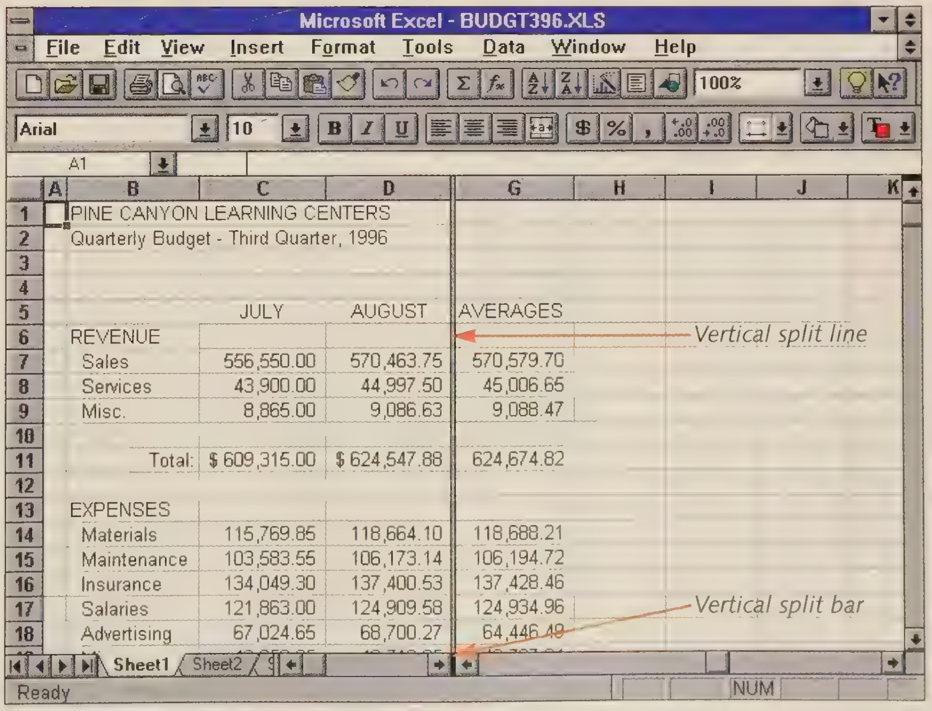
- Move the cell cursor to the row and/or column where you want to split the worksheet window.
- Select the Window pull-down menu.
- Select the Split command.

If the cell cursor is in row 1 and on any column besides column A, the worksheet window splits into two vertical windows. Conversely, if the cell cursor is in column A and on any row besides row 1, the worksheet window splits into two horizontal windows. If the cell cursor is on cell A1 or any other cell not in column A or row 1, the worksheet window splits into four panes, as shown in Figure 4-20.

SPLITTING THE WINDOW WITH THE MOUSE

Alternatively, there is a split bar located at the top of the vertical scroll bar (above the up scroll arrow) and another located at the right end of the horizontal scroll bar (directly to the right of the right scroll arrow). When the mouse cursor is placed over either split bar, the cursor changes to a

FIGURE 4-18
You can split the worksheet window into vertical panes.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
B I U
A1
Sheet1
Sheet2
Ready
NUM

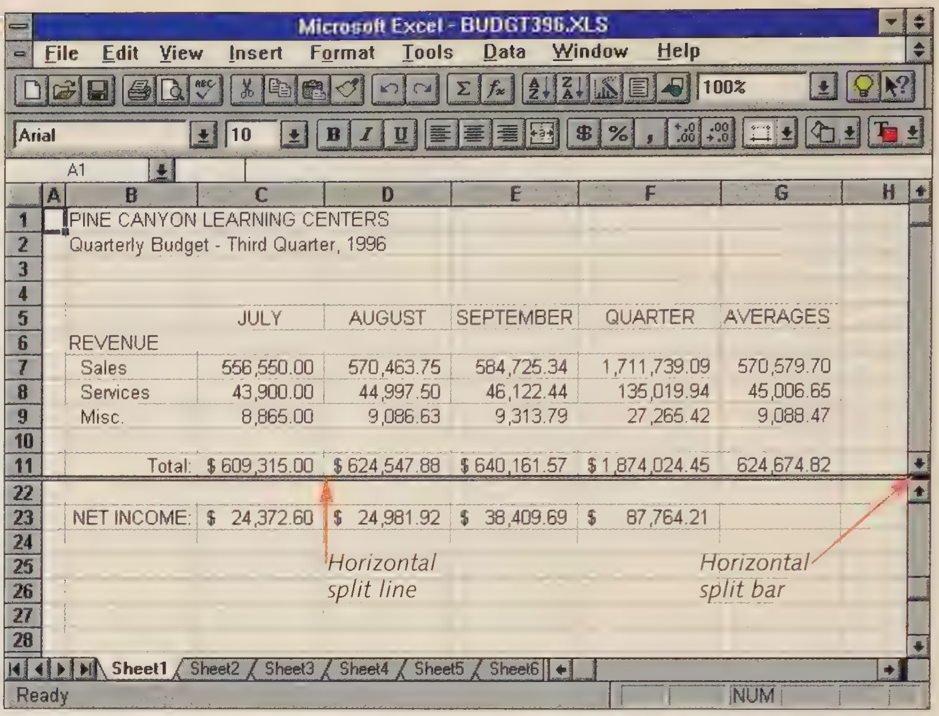
	A	B	C	D	G	H	I	J	K
1		PINE CANYON LEARNING CENTERS							
2		Quarterly Budget - Third Quarter, 1996							
3									
4									
5			JULY	AUGUST	AVERAGES				
6		REVENUE							
7		Sales	556,550.00	570,463.75	570,579.70				
8		Services	43,900.00	44,997.50	45,006.65				
9		Misc.	8,865.00	9,086.63	9,088.47				
10									
11		Total:	$ 609,315.00	$ 624,547.88	624,674.82				
12									
13		EXPENSES							
14		Materials	115,769.85	118,664.10	118,688.21				
15		Maintenance	103,583.55	106,173.14	106,194.72				
16		Insurance	134,049.30	137,400.53	137,428.46				
17		Salaries	121,863.00	124,909.58	124,934.96				
18		Advertising	67,024.65	68,700.27	64,446.48				

Vertical split line

Vertical split bar

FIGURE 4-19

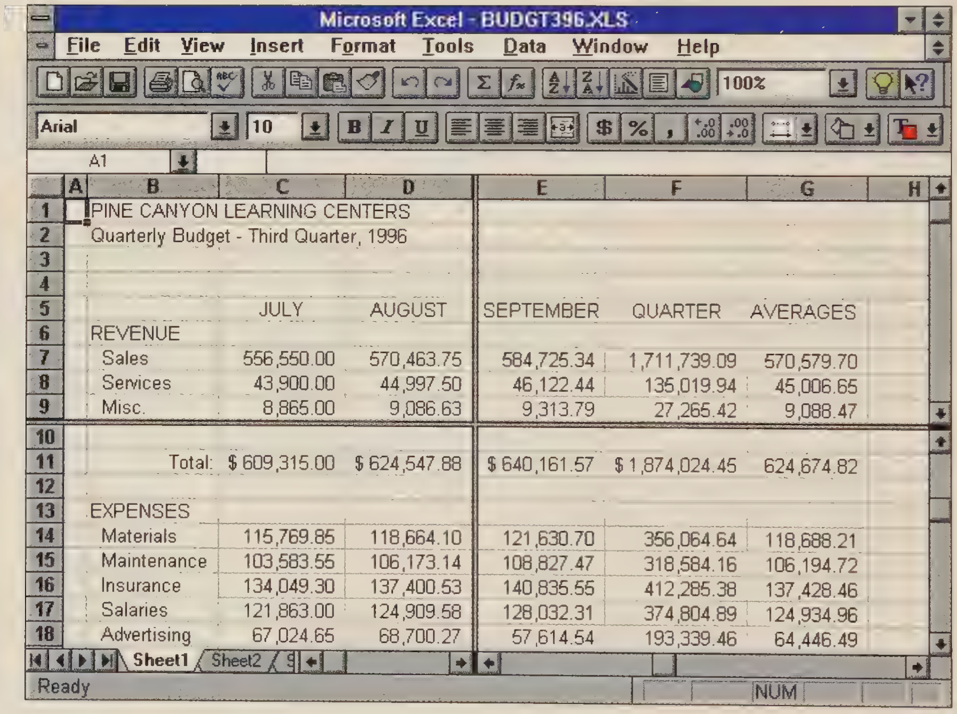
You can split the worksheet window into horizontal panes.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
A1
Horizontal split line
Horizontal split bar
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM

	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget - Third Quarter, 1996						
3								
4								
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47	
10								
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45	624,674.82	
22								
23		NET INCOME:	$ 24,372.60	$ 24,981.92	$ 38,409.69	$ 87,764.21		
24								
25								
26								
27								
28								

FIGURE 4-20

You can split the worksheet window into four panes.


Microsoft Excel - BUDGT396.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
A1
Sheet1 Sheet2
Ready
NUM

	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget - Third Quarter, 1996						
3								
4								
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47	
10								
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45	624,674.82	
12								
13		EXPENSES						
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21	
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96	
18		Advertising	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49	

split indicator (a double-headed arrow). Dragging the split indicator down from the vertical scroll bar's split bar divides the worksheet window into two horizontal panes. Dragging the split indicator left from the horizontal scroll bar's split bar divides the worksheet window into two vertical panes. Four panes can be created by using both split bars.

WORKING WITH A SPLIT WORKSHEET WINDOW

When the worksheet window is split into two or more panes, the panes can be resized by moving the visible split lines. The mouse cursor changes to a vertical double arrow when it is over the horizontal split line, a horizontal double arrow when it is over the vertical split line, or a four-headed arrow when it is over the intersection of the two split lines. You can drag the vertical split line right or left, the horizontal split line up or down, or the intersection anywhere in the worksheet window to resize the panes.

Left and right vertical panes have separate horizontal scroll bars; upper and lower horizontal panes have separate vertical scroll bars. Vertical panes scroll together vertically but scroll independently horizontally; horizontal panes scroll together horizontally but scroll independently vertically. The active pane contains the cell cursor; however, if the active cell is visible in other panes, then it is highlighted in the other panes.

The Split command is a toggle command. When the worksheet window is split into two or four panes, the command on the Window pull-down menu changes to Remove Split. You can also remove split panes by dragging the split lines to the worksheet frame.

The function key F6 can be used to make the other panes active. When the worksheet window is split into two panes, the F6 key acts as a toggle, switching the active cell between the two panes. When the worksheet window is split into four panes, pressing F6 causes the cell cursor to move clockwise from pane to pane.

SPLIT THE WORKSHEET WINDOW

You will split the worksheet window into horizontal and vertical panes.

1. Make sure Excel is ready.
2. Select cell A1.
3. Select the Window pull-down menu.
4. Select the Split command.

   The worksheet window splits into four panes. The cell cursor is on cell A1 in the upper-left pane.

5. Press Page Down twice.

   The worksheet scrolls two pane depths in the two upper panes.

6. Press Alt+Page Down.

   The worksheet scrolls horizontally in the upper- and lower-left panes.

7. Press Alt+Page Up.

   The cell cursor moves back to column A in the upper-left pane.

8. Position the mouse cursor over the vertical split bar.

   The mouse cursor changes to a double-headed arrow.

9. Drag the vertical split bar all the way to the right.

   The vertical split disappears, and the worksheet window is split into two horizontal panes.

10. Scroll the worksheet in both panes so that your worksheet window appears like the one shown in Figure 4-21.
11. Select the Zoom Control indicator's drop-down list arrow.
12. Select the 100% option.

    The worksheet window view enlarges to 100 percent.

13. Select the Window pull-down menu.
14. Select the Remove Split command.
15. Select cell A1.

CHANGE PROGRAM OPTIONS

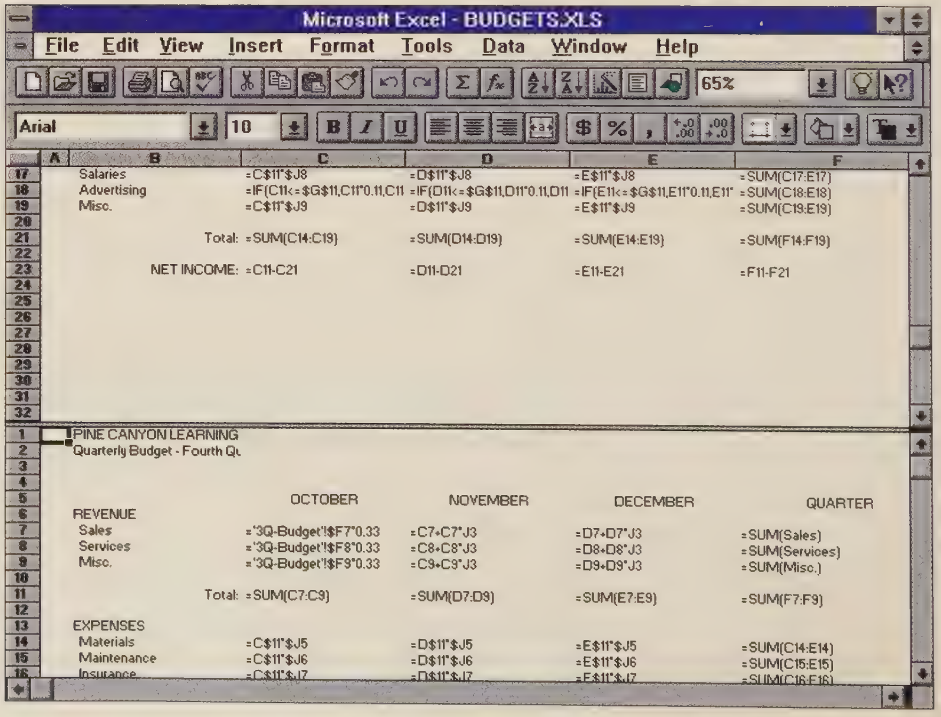
Now you will change the program options back to their status when you began this lesson.

1. Make sure Excel is ready.
2. Select the Tools pull-down menu.
3. Select the Options command.

   The Options dialog box appears.

FIGURE 4-21

Set up your worksheet window with split panes that show the parts of the worksheet shown here.



	A	B	C	D	E	F
17		Salaries	=C$11*$J8	=D$11*$J8	=E$11*$J8	=SUM(C17:E17)
18		Advertising	=IF(C11<=$G$11,C11*0.11,C11	=IF(D11<=$G$11,D11*0.11,D11	=IF(E11<=$G$11,E11*0.11,E11*	=SUM(C18:E18)
19		Misc.	=C$11*$J9	=D$11*$J9	=E$11*$J9	=SUM(C19:E19)
20						
21		Total:	=SUM(C14:C19)	=SUM(D14:D19)	=SUM(E14:E19)	=SUM(F14:F19)
22						
23		NET INCOME:	=C11-C21	=D11-D21	=E11-E21	=F11-F21
24						
25						
26						
27						
28						
29						
30						
31						
32						

	A	B	C	D	E	F
1		PINE CANYON LEARNING				
2		Quarterly Budget - Fourth Qu				
3						
4						
5			OCTOBER	NOVEMBER	DECEMBER	QUARTER
6		REVENUE				
7		Sales	='3Q-Budget'!$F7*0.33	=C7+C7*J3	=D7+D7*J3	=SUM(Sales)
8		Services	='3Q-Budget'!$F8*0.33	=C8+C8*J3	=D8+D8*J3	=SUM(Services)
9		Misc.	='3Q-Budget'!$F9*0.33	=C9+C9*J3	=D9+D9*J3	=SUM(Misc.)
10						
11		Total:	=SUM(C7:C9)	=SUM(D7:D9)	=SUM(E7:E9)	=SUM(F7:F9)
12						
13		EXPENSES				
14		Materials	=C$11*$J5	=D$11*$J5	=E$11*$J5	=SUM(C14:E14)
15		Maintenance	=C$11*$J6	=D$11*$J6	=E$11*$J6	=SUM(C15:E15)
16		Insurance	=C$11*$J7	=D$11*$J7	=E$11*$J7	=SUM(C16:E16)

4. Select the View tab, if necessary.
5. Select the Formulas option in the Window Options group.

   The X is removed from the option's check box to turn it off.
6. Select the Gridlines option in the Window Options group.

   An X appears in the option's check box to turn it on.
7. Select the Formula bar and Status bar options in the Show group to turn them on.

   Xs appear in their check boxes.
8. Select the Sheet Tabs option in the Window Options group to turn it on.
9. Select the OK command button.
10. Select the Save button.

USING EXCEL'S PRINTING FEATURES

Now let's turn to some of Excel's advanced printing features. In addition to selecting a range of data or an entire worksheet to print, you can use a variety of options to enhance and customize the appearances of printed worksheet data.

The Page Setup command on the File pull-down menu can be used to adjust margins, specify headers and footers, and set up other page or sheet settings in preparation for printing. These options help you to produce clear, presentation-quality hard copy of your worksheet data.

ADJUSTING MARGINS

Sometimes it is necessary to make margin adjustments when you are trying to fit data horizontally on a page. **Margins** are areas of empty space that frame the printed characters on a page. The amount of data (number of columns) that fits across the width of a printed page depends both on the width of the margins and on the width of the worksheet columns that are to be printed.

By default, Excel's left and right margins are 0.75-inch wide, and the top and bottom margins are 1 inch. For most print ranges, these margin settings are sufficient, but they can be changed if needed. The general procedure is as follows:

- Select the File pull-down menu.
- Select the Page Setup command to activate the Page Setup dialog box.
- Select the Margins tab.
- Select either the Top, Bottom, Left, or Right option to change a setting.
- You can choose to center the pages horizontally or vertically by selecting the appropriate check boxes.

Of course, the accuracy of margin settings also depends on how well the paper is aligned in the printer. For a laser printer, this is not a problem; its paper tray properly aligns the paper as it is fed into the printer. However, other printer types, such as a dot-matrix printer, may vary as to where the tractor-fed paper aligns. With tractor-fed printer paper, make sure the paper is properly aligned in the printer.

SETTING HEADERS AND FOOTERS

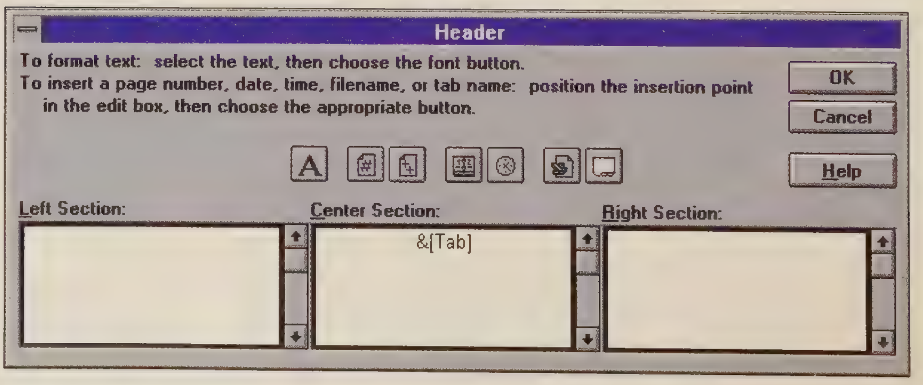
Headers and **footers** contain information that you want printed at the top and/or at the bottom of every page. Such information can be the title of the worksheet, its file name, the date the worksheet was printed, page numbers, or any other information.

As with print titles and margins, you access options for headers and footers through the Page Setup dialog box, which contains the Headers/Footers tab. The Header (and Footer) dialog box contains special areas into which you can enter header/footer text, as shown in the Header dialog box in Figure 4-22. As you can see, there are also several buttons available that allow you to enter the date, time, page numbers, and so forth.

SETTING PRINT TITLES

If you use Excel regularly, there will be times when you need to print large ranges of data that span several pages. This presents a problem for identifying data on subsequent pages when labels for column and/or row headings print on the first page only. The solution is to set up **print titles**, which are ranges of columns and/or rows that print on every page. Usually print titles contain column and/or row headings (labels), making data on all pages readily identifiable. Print titles essentially do for the printed page what the Freeze Panes command does for the worksheet window. Select the Page Setup command on the File pull-down menu, and then select the Sheet tab to activate the Print Titles options. You can enter a cell or range address in the edit boxes, or you can select the ranges in the worksheet.

If you set print titles, be sure *not* to include data within the print title columns or rows in a selected print range. If you do, the data will print twice on the first page: once as a title and once within the print range.



To format text: select the text, then choose the font button.
To insert a page number, date, time, filename, or tab name: position the insertion point in the edit box, then choose the appropriate button.

Left Section:

Center Section: &[Tab]

Right Section:

FIGURE 4-22

The Header dialog box allows you to specify header text, which prints at the top of every page.

USING PAGE BREAKS

When printing worksheet data, it is important to recognize that there are two types of page breaks: horizontal and vertical. A **horizontal page break** refers to the division where the last column is printed along the right margin on one page and the next column is printed at the left margin of the next page. As was mentioned earlier, this type of page break is determined by a number of factors, including the left and right margin settings and the widths of columns.

Vertical page breaks involve the number of lines printed on a single page. You can insert a vertical page break to control the way in which Excel breaks pages. To do this you must use the Page Break command on the Insert pull-down menu. The general procedure is as follows:

- Move the cell cursor to any cell in the row where you want to insert a page break.
- Select the Insert pull-down menu.
- Select the Page Break command.

This command inserts a special page break symbol above and to the left of the active cell, depending on the cell's location. If the cell cursor is in column A, then only a vertical page break inserts. However, if the cell cursor is in another column, Excel inserts both a horizontal and a vertical page break. Keep this in mind when you insert page breaks. If you only want to break pages between certain rows, be sure to position the cell cursor in column A first. The Page Break command is a toggle command. If you want to delete a page break, simply select the Remove Page Break command on the Insert pull-down menu.

USING PRINT PREVIEW

The Excel spreadsheet is equipped with a **Print Preview** feature that allows you to look at a screen-size facsimile of your printed pages. Print Preview features are convenient tools because you don't have to waste a lot of paper getting your worksheets to look just right.

You can use the Print Preview command on the File pull-down menu, the Print Preview button on the Standard toolbar, or the Print Preview button in the Page Setup dialog box to access the Print Preview window, shown in Figure 4-23. Notice that the Print Preview window is equipped with buttons that allow you to zoom the view in and out, switch to other pages, loop back to the Page Setup dialog box, change margin settings, and go to the Print dialog box.

SETUP PAGES

You will make some page setup adjustments, and then print your budget worksheets.

1. Make sure the latest changes to the current workbook file have been saved and Excel is ready.

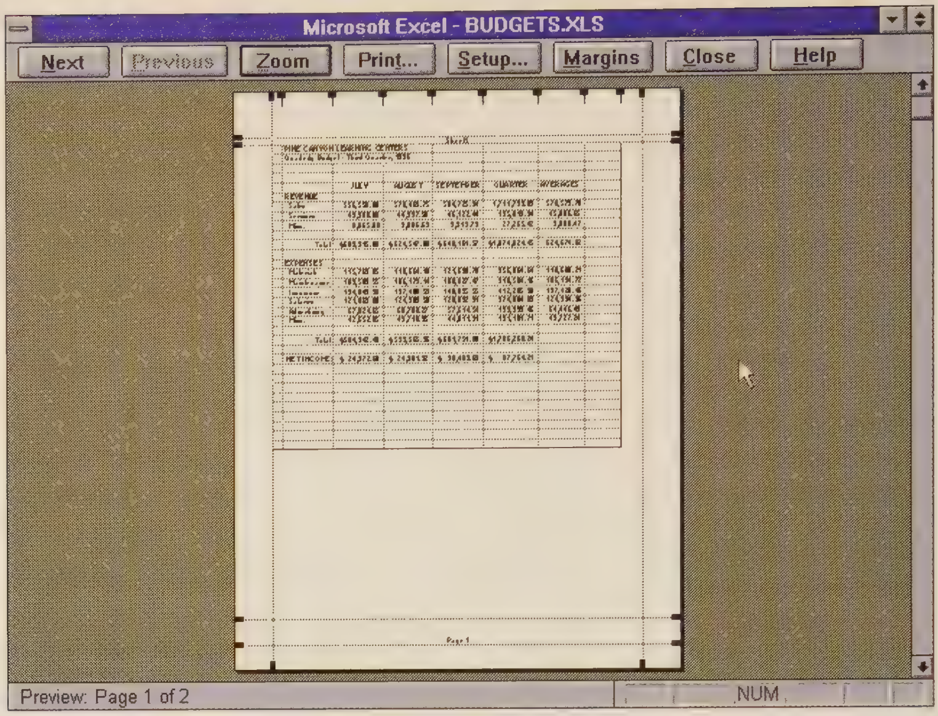


FIGURE 4-23 *The Print Preview window shows you a facsimile of the printed worksheet pages before you print.*

2. Make the 3Q-Budget budget the active worksheet.
3. Select the File pull-down menu.
4. Select the Page Setup command.

   The Page Setup dialog box appears.
5. Select the Margins tab, if necessary.
6. Select the Horizontally check box option in the Center On Page group.
7. Select the Vertically check box option in the Center On Page group.
8. Select the Header/Footer tab.
9. Select the Custom Header button.

   The Header dialog box appears.
10. Type **1996 Budgets** and press Tab.

    The text is set for the header's Left Section, and the insertion bar moves to the Center Section, highlighting the & Tab code.
11. Press Del.

    The code deletes.
12. Press Tab.

    The insertion bar moves to the Right Section.
13. Select the Date button.

    An & [Date] code appears. This code causes Excel to print the current date that is set in the computer's internal clock.

14. Select the OK command button.

    The worksheet's header is set.

15. Select the OK command button in the Page Setup dialog box.

16. Select the Print Preview button.

    The Print Preview window appears. Notice that the Center On Page Horizontally and Vertically options place the first page's columns in the center of the page. Notice also that you can see the header you specified and Excel's default footer that places the page number at the bottom center of the page.

17. Select the Zoom command button.

    The Print Preview window's view enlarges so you can see the details of your worksheet.

18. Scroll the page in the Print Preview window to see other areas of the page, including the footer.

19. Select the Zoom command button to toggle back to full page view.

20. Select the Margins command button.

    Notice that there are handles at the top of the page that allow you to make fine-tuning adjustments to column widths, if necessary. There are similar handles for adjusting margins and page breaks as well.

21. Click on the vertical scroll bar, anywhere below the scroll box.

    The 3Q-Budget worksheet's page 2 appears. Notice that this page contains the table of percentage factors.

22. Click on the vertical scroll bar, anywhere above the scroll box.

23. Select the Setup command button.

    The Page Setup dialog box appears.

24. Select the Sheet tab.

    A set of worksheet page setup options appears.

25. Select the Gridlines check box option in the Print group to turn it off.

    The X in the check box disappears.

26. Select the OK command button.

    The Print Preview window is again active. Notice that now the gridlines are turned off and won't print.

27. Select the Close command button.

    The Print Preview window closes, and the 3Q-Budget worksheet is active.

28. On your own, activate the 4Q-Budget worksheet.

29. Select the same page setup options you just did for the 3Q-Budget worksheet. Be sure to check your settings in the Print Preview window.

30. Select the Save button.

    The latest changes are saved to disk.

MODIFY A FOOTER

Before you print, you will modify the footer for the 4Q-Budget worksheet.

1. Make sure Excel is ready.
2. If necessary, make the 4Q-Budget worksheet active.
3. Select the Print Preview button.

   The Print Preview window appears.

4. Select the Setup command button.

   The Page Setup dialog box appears.

5. Select the Header/Footer tab, if necessary.
6. Select the Custom Footer command button.
7. Highlight the &[Page] code in the Center Section box.
8. Type 2

   The number 2 replaces the code.

9. Select the OK command button.

   The Page Setup dialog box is active.

10. Select the OK command button.

    The Print Preview window is active.

11. Select the Close command button.
12. Select the Save button.

    The latest changes are saved to disk.

PRINT THE WORKSHEETS

Now you will print your two budget worksheets in the active workbook file.

1. Make sure Excel is ready.
2. Select the 3Q-Budget worksheet, if necessary.
3. Select the File pull-down menu.
4. Select the Print command.

   The Print dialog box appears.

5. Select the Page(s) radio button in the Page Range group.

   An insertion bar appears in the From edit field automatically.

6. Type 1 and press Tab.

7. Type 1
8. Make sure the printer model listed at the top of the dialog box matches the printer connected to your system.
9. Make sure the printer connected to the system with which you are working is turned on, has paper that is properly aligned, and is ready to print.
10. Select the OK command button.

    If the printer is functioning properly, the active worksheet's page 1 prints.

11. Select the 4Q-Budget tab to activate the fourth-quarter budget worksheet.
12. Select the File pull-down menu.
13. Select the Print command.
14. Select the Page(s) radio button in the Page Range group.
15. Type 1 and press Tab.
16. Type 1
17. Make sure the printer connected to the system with which you are working is turned on, has paper that is properly aligned, and is ready to print.
18. Select the OK command button.

    If the printer is functioning properly, the active worksheet's page one prints.

19. Select the Save button.
20. If you want to continue working with Excel, close the active workbook file; otherwise, exit the Excel program.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Change program options	Tools, Options	[Alt]+t, o	
Toggle display of Formula bar	View, Formula bar	[Alt]+v, f	
Toggle display of Status bar	View, Status bar	[Alt]+v, s	
Toggle full screen mode	View, Full Screen	[Alt]+v, u	
Toggle display of toolbars	View, Toolbars	[Alt]+v, t	
Adjust worksheet display size	View, Zoom	[Alt]+v, z	
Freeze panes	Window, Freeze Panes	[Alt]+w, f	
Remove frozen panes	Window, Unfreeze Panes	[Alt]+w, f	
Split worksheet window	Window, Split or Drag window split bar	[Alt]+w, s	
Remove split window	Window, Remove Split or Drag window split bar	[Alt]+w, s	
Set up pages for printing	File, Page Setup	[Alt]+f, u	
Insert page break	Insert, Page Break	[Alt]+i, b	
Preview worksheet pages	File, Print Preview	[Alt]+f, v	🔍

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS

1. scrolling
2. embedded object
3. palette
4. margins
5. print preview
6. print titles
6. header
7. header
8. footer

DEFINITIONS

a. Information that prints at top of every page
b. Information that prints at bottom of every page
c. Movement of worksheet in worksheet window
d. Picture, chart, graph, or other object inserted in worksheet range
e. Active available selection of colors that can be applied to variety of elements
f. Areas of empty space on edges of printed pages
g. Column and/or row ranges that print on every page
h. Window that displays facsimiles of printed pages

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. The display of the Formula bar and Status bar:
   - **a.** Can be toggled on and off in the Options dialog box only
   - **b.** Can be toggled on and off on the View menu only
   - **c.** Can be toggled both in the Options dialog box and on the View menu
   - **d.** Cannot be toggled off
2. The standard font option is in which set?
   - **a.** General
   - **b.** View
   - **c.** Edit
   - **d.** Calculation
3. Turning off the display of which items will provide the biggest view of the worksheet area?
   - **a.** The Formula and Status bars only
   - **b.** The Formula and Status bars and all toolbars with full screen mode off
   - **c.** The Formula and Status bars and all toolbars with full screen mode on
   - **d.** Toolbars only with full screen mode on
4. Which Magnification option would be the best for sizing a selected range so that it occupies the width of the worksheet window?
   - **a.** 50%
   - **b.** 75%
   - **c.** 200%
   - **d.** Fit Selection
5. Locking certain columns and/or rows in the worksheet window is best handled with the:
   - **a.** Window, Freeze Panes command
   - **b.** Edit, Delete, Entire Rows command
   - **c.** Window, Split command
   - **d.** File, Page Setup, Print Titles command
6. In a vertically split worksheet window the side-by-side panes scroll:
   - **a.** Independently vertically and horizontally
   - **b.** Together vertically and independently horizontally

- **c.** Independently vertically and together horizontally
- **d.** Together vertically and horizontally

7. Printed text that is to appear at the bottom of every page is entered as a(n):

- **a.** Header
- **b.** Footer
- **c.** Print title
- **d.** Embedded object

8. The best chances of printing as many columns across the printed page as possible are:

- **a.** Reducing both column width and margin size
- **b.** Increasing column width and reducing margin size
- **c.** Reducing column width and increasing margin size
- **d.** Increasing both column width and margin size

9. The Print Preview window can be used to:

- **a.** Adjust column width
- **b.** View headers and footers
- **c.** Check a page's layout
- **d.** All of these

10. If the cell cursor is on cell Z26 and you change the Reference Style option in the General options set to R1C1, what cell address will display in the Name box when you return to the worksheet?

- **a.** R1C26
- **b.** R26C26
- **c.** R26C1
- **d.** R1C1

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Suppose you want to set up Excel so that a cell that contains any formula that calculates to zero in the active worksheet appears blank. Which setting would you need to change, and where can you find it?

2. Briefly list which settings you would need to change to make your Excel program window appear like the one shown in Figure 4-24. Be specific.

3. Suppose you want to display a full worksheet window view of the active cell. Briefly describe how you would carry out this task.

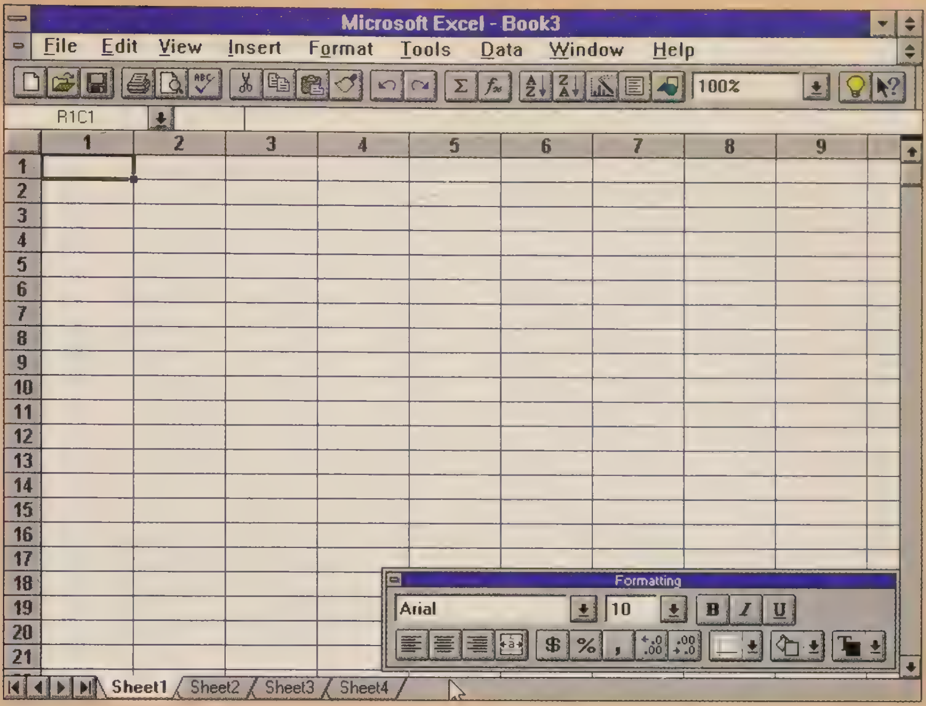

Microsoft Excel - Book3
File Edit View Insert Format Tools Data Window Help
100%
R1C1
1 2 3 4 5 6 7 8 9
Formatting
Arial
10
B I U
Sheet1 Sheet2 Sheet3 Sheet4

FIGURE 4-24

For short-answer question 2, list the options that you would need to change to make your Excel program look like this.

APPLICATION PROJECTS

To complete the following projects, load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary. Insert your work disk or Student Data Disk into drive A (or B). Change the working directory to the drive containing your work disk or Student Data Disk, if necessary.

1. Open the workbook file SUBSALS3.XLS. If this workbook file is not available because you did not complete application project 1 in Lesson 3, either do so now, or open the workbook file AP3_1STW.XLS. Then do the following:
   - **a.** Customize the appearances of the program and worksheet windows so they appear as shown in Figure 4-25.
   - **b.** Use Page Setup options to adjust left and right margins to .5-inch, center the data horizontally, and specify the following header:

     Subscription Sales by Region (current date)

     Be sure to use the Date button to insert the date, as indicated by "**(current date)**."
   - **c.** Use the default footer settings for this worksheet.
   - **d.** Save the workbook file in a file named SUBSALS4.XLS.
   - **e.** View the worksheet in the Print Preview window. When you are satisfied with its appearance, print the document.
   - **f.** Close the workbook file.

2. Open the workbook file INVRPRT3.XLS. If this workbook file is not available because you did not complete application project 2 in Lesson 3, either do so now, or open the workbook file AP3_2SIR.XLS. Then do the following:

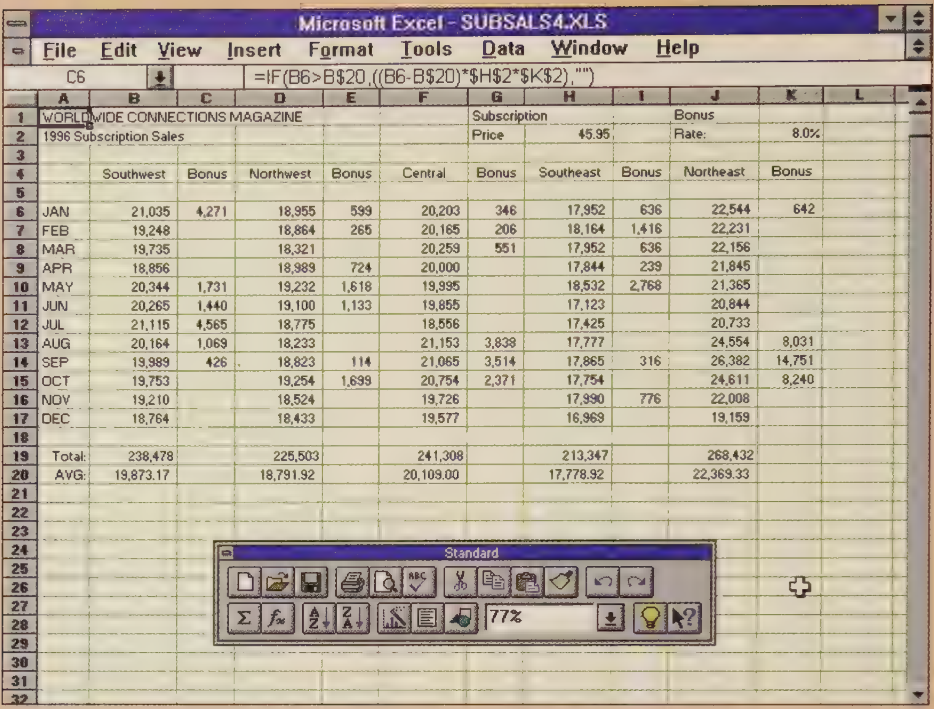


FIGURE 4-25

Customize the appearance of your program and worksheet windows with the sales tracking worksheet active for application project 1.

C6 =IF(B6>B$20,((B6-B$20)*$H$2*$K$2),"")

	A	B	C	D	E	F	G	H	I	J	K	L
1	WORLDWIDE CONNECTIONS MAGAZINE						Subscription			Bonus		
2	1996 Subscription Sales						Price	45.95		Rate:	8.0%	
3												
4		Southwest	Bonus	Northwest	Bonus	Central	Bonus	Southeast	Bonus	Northeast	Bonus	
5												
6	JAN	21,035	4,271	18,955	599	20,203	346	17,952	636	22,544	642	
7	FEB	19,248		18,864	265	20,165	206	18,164	1,416	22,231		
8	MAR	19,735		18,321		20,259	551	17,952	636	22,156		
9	APR	18,856		18,989	724	20,000		17,844	239	21,845		
10	MAY	20,344	1,731	19,232	1,618	19,995		18,532	2,768	21,365		
11	JUN	20,265	1,440	19,100	1,133	19,855		17,123		20,844		
12	JUL	21,115	4,565	18,775		18,556		17,425		20,733		
13	AUG	20,164	1,069	18,233		21,153	3,838	17,777		24,554	8,031	
14	SEP	19,989	426	18,823	114	21,065	3,514	17,865	316	26,382	14,751	
15	OCT	19,753		19,254	1,699	20,754	2,371	17,754		24,611	8,240	
16	NOV	19,210		18,524		19,726		17,990	776	22,008		
17	DEC	18,764		18,433		19,577		16,969		19,159		
18												
19	Total:	238,478		225,503		241,308		213,347		268,432		
20	AVG:	19,873.17		18,791.92		20,109.00		17,778.92		22,369.33		

a. Customize the appearances of the program and worksheet windows so they appear as shown in Figure 4-26.

b. Use Page Setup options to adjust left and right margins to .5-inch, center the data horizontally, and specify the following header:

Plant Production Report (current date)

Be sure to use the Date button to insert the date, as indicated by "(current date)."

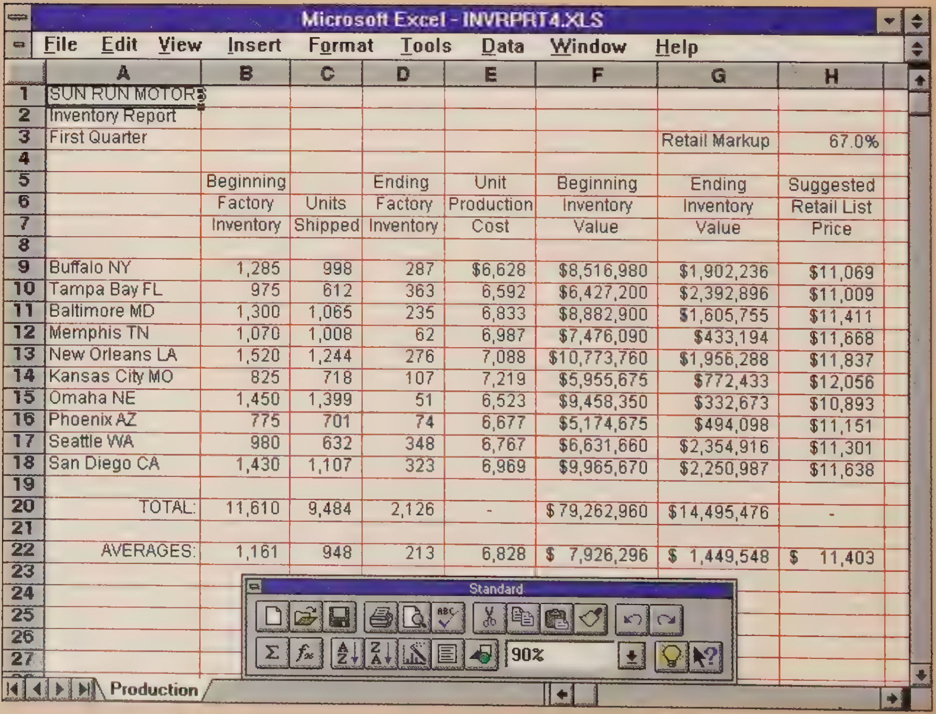


FIGURE 4-26

Customize the appearance of your program and worksheet windows with the inventory report worksheet active for application project 2.

	A	B	C	D	E	F	G	H
1	SUN RUN MOTORS							
2	Inventory Report							
3	First Quarter						Retail Markup	67.0%
4								
5		Beginning		Ending	Unit	Beginning	Ending	Suggested
6		Factory	Units	Factory	Production	Inventory	Inventory	Retail List
7		Inventory	Shipped	Inventory	Cost	Value	Value	Price
8								
9	Buffalo NY	1,285	998	287	$6,628	$8,516,980	$1,902,236	$11,069
10	Tampa Bay FL	975	612	363	6,592	$6,427,200	$2,392,896	$11,009
11	Baltimore MD	1,300	1,065	235	6,833	$8,882,900	$1,605,755	$11,411
12	Memphis TN	1,070	1,008	62	6,987	$7,476,090	$433,194	$11,668
13	New Orleans LA	1,520	1,244	276	7,088	$10,773,760	$1,956,288	$11,837
14	Kansas City MO	825	718	107	7,219	$5,955,675	$772,433	$12,056
15	Omaha NE	1,450	1,399	51	6,523	$9,458,350	$332,673	$10,893
16	Phoenix AZ	775	701	74	6,677	$5,174,675	$494,098	$11,151
17	Seattle WA	980	632	348	6,767	$6,631,660	$2,354,916	$11,301
18	San Diego CA	1,430	1,107	323	6,969	$9,965,670	$2,250,987	$11,638
19								
20	TOTAL:	11,610	9,484	2,126	-	$79,262,960	$14,495,476	-
21								
22	AVERAGES:	1,161	948	213	6,828	$ 7,926,296	$ 1,449,548	$ 11,403

- **c.** Delete the page number code to create a blank, customized footer.
- **d.** If necessary, adjust column widths to ensure all the data fits across the width of a page.
- **e.** Save the workbook in a file named INVRPRT4.XLS.
- **f.** View the worksheet in the Print Preview window. When you are satisfied with its appearance, print the document.
- **g.** Close the workbook file.

3. Open the workbook file WATRUSE2.XLS. If this workbook file is not available because you did not complete application project 2 in Lesson 3, either do so now, or open the workbook file AP3_3WUW.XLS. Then do the following:

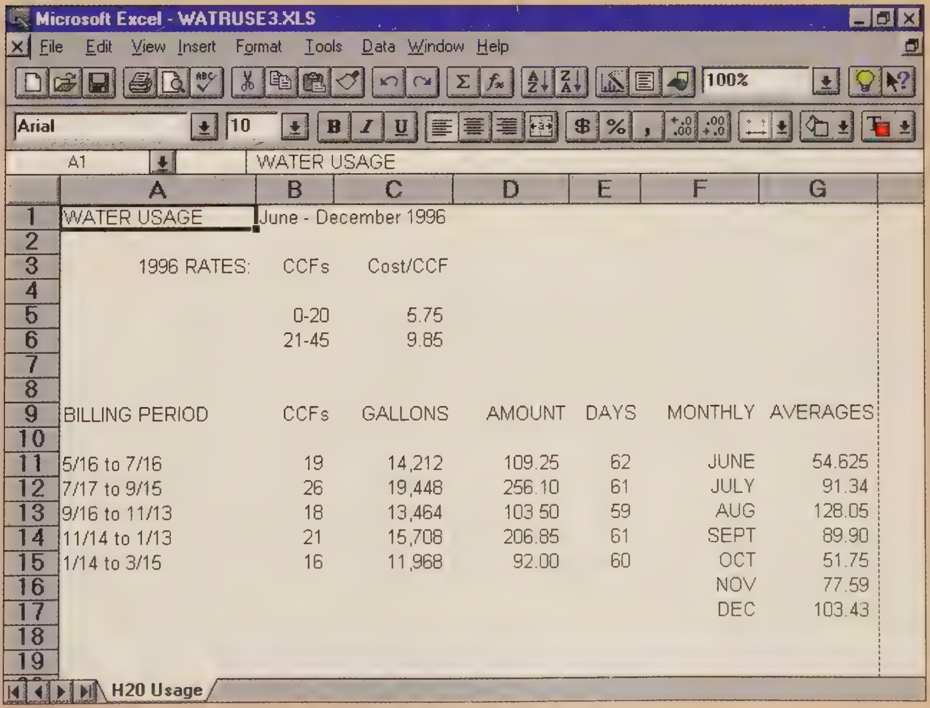
- **a.** Customize the appearances of the program and worksheet windows so they appear as shown in Figure 4-27.
- **b.** Use Page Setup options to adjust left and right margins to 1 inch, and specify the following footer:

  Water Use & Cost **Monthly Averages** (**current date**)

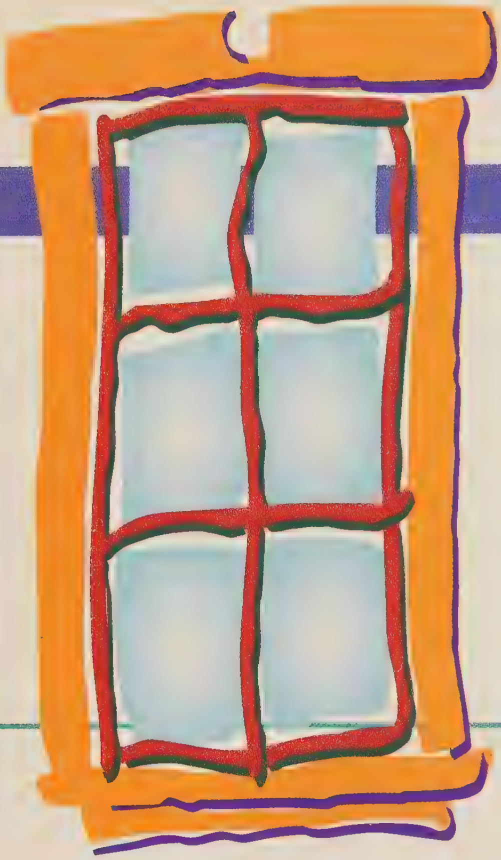
  Be sure to insert the date, as indicated by "(**current date**)."
- **c.** Create a blank, customized header.
- **d.** Save the workbook in a file named WATRUSE3.XLS.
- **e.** View the worksheet in the Print Preview window. When you are satisfied with its appearance, print the document.
- **f.** Exit the Excel program.

FIGURE 4-27

Customize the appearance of your program and worksheet windows with the water usage worksheet active for application project 3.


Microsoft Excel - WATRUSE3.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
A1
WATER USAGE
H20 Usage

	A	B	C	D	E	F	G
1	WATER USAGE	June - December 1996					
2							
3	1996 RATES:	CCFs	Cost/CCF				
4							
5		0-20	5.75				
6		21-45	9.85				
7							
8							
9	BILLING PERIOD	CCFs	GALLONS	AMOUNT	DAYS	MONTHLY	AVERAGES
10							
11	5/16 to 7/16	19	14,212	109.25	62	JUNE	54.625
12	7/17 to 9/15	26	19,448	256.10	61	JULY	91.34
13	9/16 to 11/13	18	13,464	103.50	59	AUG	128.05
14	11/14 to 1/13	21	15,708	206.85	61	SEPT	89.90
15	1/14 to 3/15	16	11,968	92.00	60	OCT	51.75
16						NOV	77.59
17						DEC	103.43
18							
19							



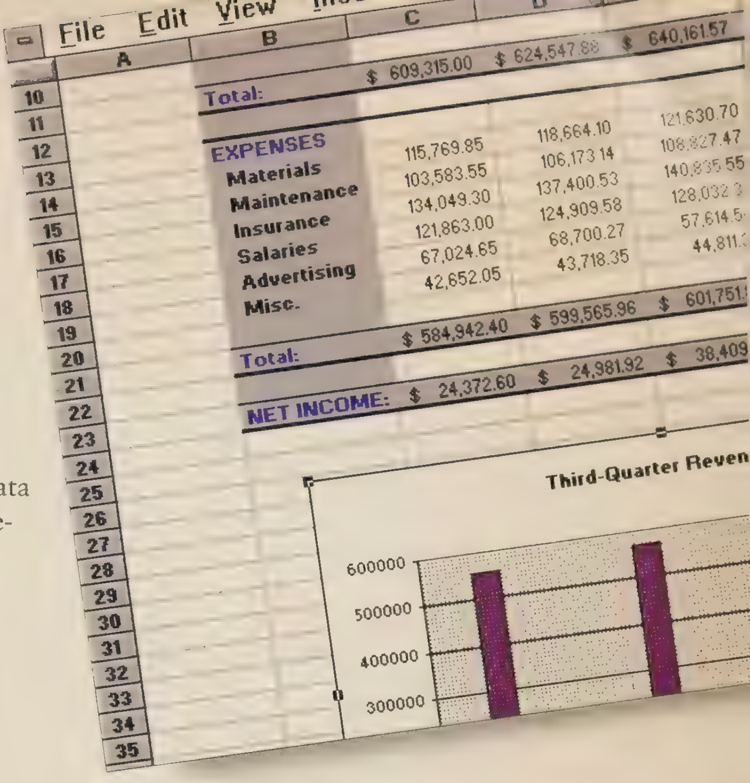
LESSON 5

CREATING CHARTS AND ENHANCING WORKSHEET DATA

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create different types of charts.*
- *Embed a chart in a worksheet.*
- *Hide one or more columns or rows in a worksheet.*
- *Create a separate chart sheet.*
- *Enhance a chart with titles, legends, and other elements.*
- *Update a chart linked dynamically to worksheet data.*
- *Apply fonts and font attributes to ranges of worksheet data.*
- *Apply borders, shading, and shadows to worksheet ranges or embedded objects.*
- *Copy format attributes.*
- *Print embedded charts and chart sheets.*



Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57
EXPENSES			
Materials	115,769.85	118,664.10	121,630.70
Maintenance	103,583.55	106,173.14	108,827.47
Insurance	134,049.30	137,400.53	140,835.55
Salaries	121,863.00	124,909.58	128,032
Advertising	67,024.65	68,700.27	57,614.5
Misc.	42,652.05	43,718.35	44,811
Total:	$ 584,942.40	$ 599,565.96	$ 601,751
NET INCOME:	$ 24,372.60	$ 24,981.92	$ 38,409

In this lesson you will learn how to create charts to represent data graphically in a variety of formats. Then you will learn how to use the program's spreadsheet-publishing features to enhance ranges of data and turn worksheets into presentation-quality documents.

USING CHARTS

In terms of communicating information, worksheets organize and present data—labels and values—in table format. This format works fine when you are working with the data and reviewing the information while editing. The worksheet's table format can also be suitable for presentations to an audience, particularly if the people reviewing the data have an understanding of what the values represent. There are often occasions, however, where you may need to present the data to an audience that does not have familiarity or a full understanding of the data or its significance. This is where a chart can come in handy.

A **chart** is a diagram that uses graphic symbols to represent or illustrate data. A chart can highlight or enhance the significance of data with greater visual impact than a table of numbers and labels. The ability to illustrate data graphically is extremely useful for presentations in business, education, and other settings. Illustrative charts help to support an argument or emphasize the primary point of an analysis, adding more drama and appeal to a presentation. For example, the basic line chart shown in Figure 5-1 communicates expense levels for the items in the budget you have developed in this book.

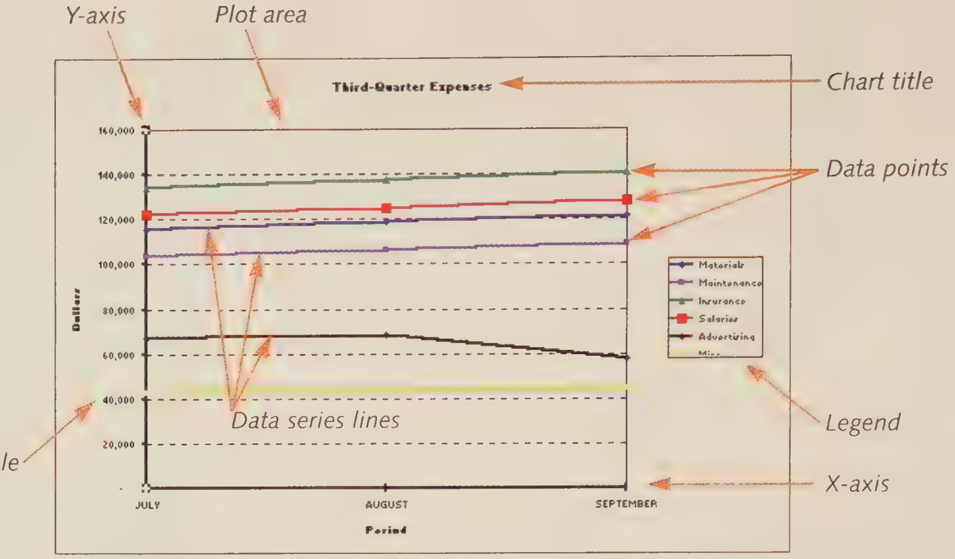
When you create a chart, the chart and the data represented by the chart are linked dynamically. A **dynamic link** means that if changes are made to the data, the chart updates automatically to reflect those changes. Charts can help clarify data relationships for an audience more meaningfully than merely viewing the represented data in table format.

USING CHART ELEMENTS

Excel for Windows provides 14 types of charts. **Chart types** are variations of chart elements that make up the graphic image that represents data relationships. For example, a line chart uses lines and data points to represent changes in data over a particular period. You might use a line, column,

FIGURE 5-1

This two-dimensional line chart contains several common chart elements, including a y-axis, an x-axis, a y-axis scale, x-axis labels, data series symbols, data points, a plot area, a title, and a legend.



or bar chart, for instance, to show fluctuations in revenue levels over a fiscal quarter or to track the performances of regional sales offices.

The type of chart you select to represent worksheet data depends on several factors, including the types of data you want to represent, how the data can best be represented, and what you want to communicate to the viewer. Table 5-1 outlines the different chart types Excel for Windows provides.

Area, bar, column, line, and pie charts can appear with either 2-D (two-dimensional) or 3-D (three-dimensional) illustration. Figure 5-1 shows a 2-D line chart, and Figure 5-2 shows a 3-D column chart. Each chart type includes a selection of **chart subtypes**, or formats, that allow you to vary the display of graphic elements that make up the chart. Except for pie charts and doughnut charts, different chart types have the following

FIGURE 5-2

This three-dimensional column chart contains several common chart elements, including a y-axis, an x-axis, a y-axis scale, x-axis labels, data series symbols, a plot area, and a title and subtitle.

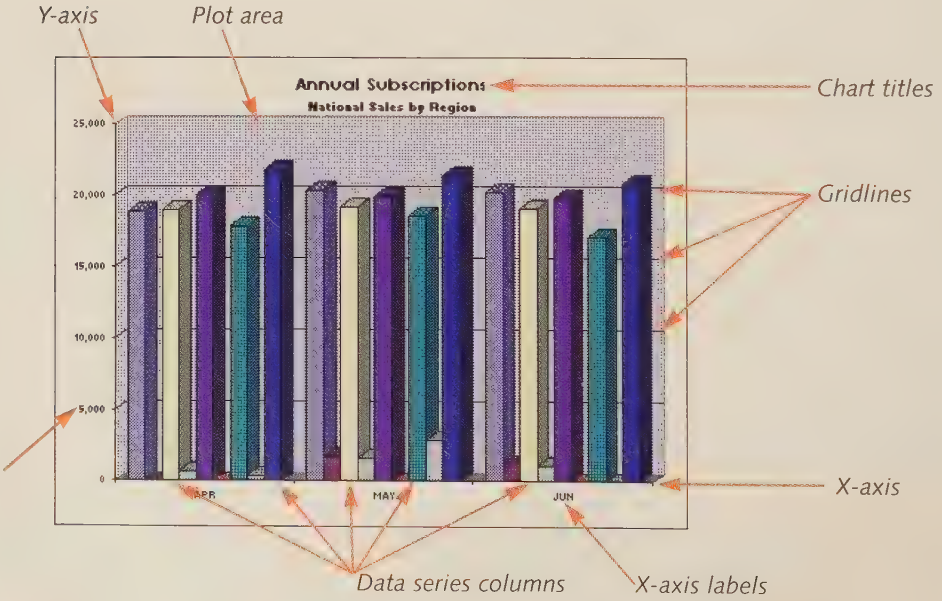


TABLE 5-1: MICROSOFT EXCEL FOR WINDOWS CHART TYPES

TYPE	ELEMENT	REPRESENTATION
Area	Filled or colored stacked areas	Comparisons between value ranges and changes over time
3-D area	Adds 3-D markers	
Bar	Horizontal bars	Comparisons between individual values or value ranges and changes over time
3-D bar	Adds 3-D markers	
Column	Vertical bars	Comparisons between individual values or value ranges and changes over time
3-D column	Adds 3-D markers	
Line	Points connected by lines	Changes in values over time
3-D line	Adds 3-D markers	
Pie	Circle divided into wedges	Fractional parts of a single whole
3-D pie	Adds 3-D markers	
Doughnut	Ring divided into sections	Fractional parts of a single whole
Radar	Points connected by lines	Changes in values over time
XY (scatter)	Scattered data points	Correlation between two types of values
3-D surface	Filled or colored sections that float within the chart area	Comparisons between individual values and total values over time

elements in common: an x-axis, a y-axis, and a y-axis scale (see Figures 5-1 and 5-2). Axes are perpendicular lines representing scales or some type of measurement; their intersection generally represents the value zero. The x-axis is horizontal, and the y-axis is vertical.

All charts are made up of elements that form the chart's data series, data points, and a plot area. A **data series** is a combination of graphic elements that represent data. For example, a set of bars in a bar or column chart can represent a range of worksheet values; the slices or wedges of a pie chart collectively represent a data series in a corresponding worksheet. A **data point** is a specific graphic element that represents a single worksheet value, such as a pie slice, a bar, or a point along a line. A chart's **plot area** is a rectangular area that contains the graphic elements that make up the chart. Figure 5-3 shows a pie chart with its rectangular plot area in another color.

FIGURE 5-3

This three-dimensional pie chart contains a disk representing the whole (a single data series), wedges representing single values (data points), and its shaded plot area in addition to a chart title and data point labels.

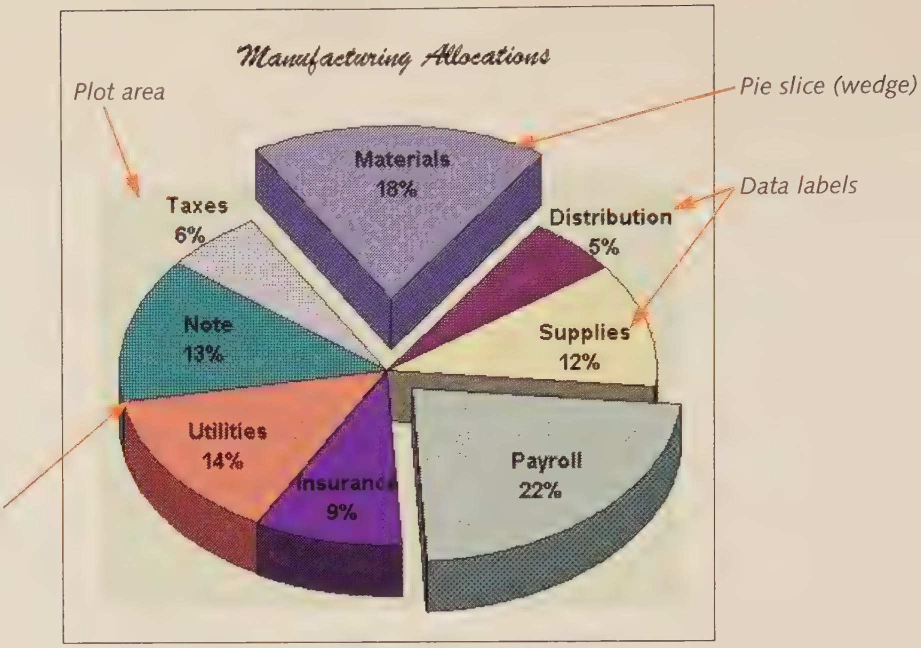


Chart elements can be selected by clicking the mouse button when the mouse cursor is positioned over the element you want to select. Selection handles appear around the perimeter (outline) of an object to show it is selected. Depending on the element you are selecting, you may have to click the mouse button more than once to select the element. For many charts you can also add other elements to enhance them, such as colored lines, data points, bars, or other items; chart titles; x-axis and y-axis labels; legends; and gridlines. Figure 5-2 shows a 3-D column chart with some of these elements labeled.

CREATING A CHART

To chart worksheet data, you first select the data you want the chart to represent. Accuracy is not crucial at this initial stage, since you can readily modify the represented data at any time. Once the data is selected, you need to decide whether you want to create an embedded chart in an active worksheet range or a separate chart on another sheet in the workbook file.

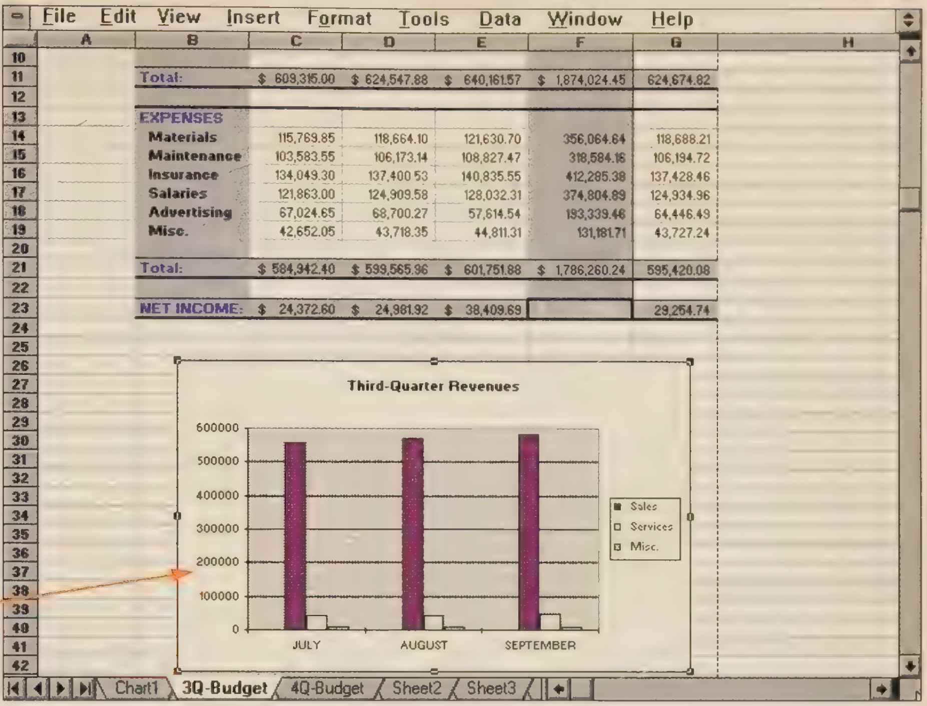
CREATING AN EMBEDDED CHART

An **embedded chart**, as shown in Figure 5-4, is inserted into the active worksheet, preferably adjacent to the data that is being represented. An embedded chart is advantageous when you want to provide a graphic representation beside or near the worksheet data. This gives the audience a corresponding visual interpretation of the data's significance because you can print the chart along with the data, very often on the same page.

Another advantage to using an embedded chart is that you can make changes to worksheet data and see the results in the corresponding chart

FIGURE 5-4

An embedded chart is an object that you insert in a range in the active worksheet. Notice that embedded charts can be placed adjacent to data represented in the chart.



	A	B	C	D	E	F	G	H
10								
11		Total:	$ 609,315.00	$ 624,547.88	$ 640,161.57	$ 1,874,024.45	624,674.82	
12								
13		EXPENSES						
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21	
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96	
18		Advertising	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49	
19		Misc.	42,652.05	43,718.35	44,811.31	131,181.71	43,727.24	
20								
21		Total:	$ 584,942.40	$ 599,565.96	$ 601,751.88	$ 1,786,260.24	595,420.08	
22								
23		NET INCOME:	$ 24,372.60	$ 24,981.92	$ 38,409.69		29,254.74	

Embedded object

immediately. An embedded chart can be saved along with the active worksheet in the same workbook file.

CREATING A SEPARATE CHART SHEET

Sometimes you may need to create a chart in a separate **chart sheet** that is stored within a workbook file. Chart sheets are best used when you want to prepare a graphic representation of data that will eventually be used as a presentation slide or inserted as a separate page in a report. Excel inserts a chart sheet immediately before the active worksheet, which contains the data you are representing in the chart.

Whether you create an embedded chart or a chart sheet, the procedure is basically the same. The only difference is the location of the chart. You can use commands or special toolbar buttons to create a chart. Both methods give you access to Excel's ChartWizard, which steps you through the procedure for charting the selected data.

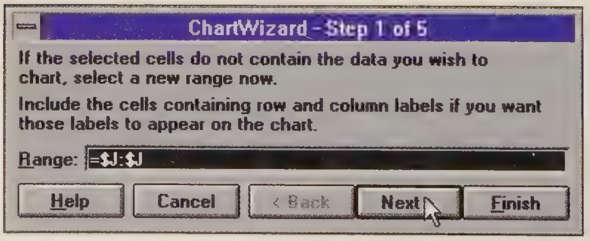
USING THE CHARTWIZARD

The **ChartWizard** is a tool that makes creating a chart for selected data more efficient by stepping you through the creation process in a series of dialog boxes. You can select the ChartWizard button on the Standard toolbar or use the Chart command on the Insert pull-down menu to access the ChartWizard's first dialog box. Once you create the chart, you can then use additional options to edit, format, and embellish the chart to achieve the effect you desire. The basic steps for using Excel's ChartWizard to create an embedded chart or chart sheet are as follows:

- Select the data ranges you want to chart.
- Select the Insert pull-down menu.
- Select the Chart command, which presents a pop-up menu.
- Select either the On This Sheet command (to create an embedded chart) or the As New Sheet command (to create a separate chart sheet). If you are creating an embedded chart, the mouse cursor changes to a charting mouse cursor; if you are creating a chart sheet, the ChartWizard - Step 1 Of 5 dialog box appears, as shown in Figure 5-5.
- Scroll the worksheet to display an empty range in the active worksheet where you want to insert an embedded chart, if you are creating an embedded chart.
- Position the mouse cursor over a cell that you want to be the upper-left corner of the embedded chart's range.
- Drag an outline from the upper-left corner to the lower-right corner at roughly the size you want to make the chart. Then release the mouse button. The ChartWizard - Step 1 Of 5 dialog box then appears (see Figure 5-5).

USING THE CHARTWIZARD'S FIVE-STEP PROCEDURE

With the ChartWizard dialog box active, you can step through the ChartWizard's five-step procedure to create a basic chart. Once you have the basic chart created, then you can edit, format, and embellish the chart to suit your needs. The first step is to select the data you want to chart. If you select the data before you access the ChartWizard, its range reference appears highlighted in the Range edit field when the ChartWizard dialog box first appears. If you haven't selected a range first, or if you want to change the selected range, you can type a reference or range name, or point to (select) a range in the worksheet. Then select the Next command button to display the next ChartWizard dialog box.



ChartWizard - Step 1 of 5

If the selected cells do not contain the data you wish to chart, select a new range now.

Include the cells containing row and column labels if you want those labels to appear on the chart.

Range: =$J:$J

FIGURE 5-5

Excel's ChartWizard helps you to create charts quickly and easily in a five-step procedure. To use ChartWizard, you enter information in five dialog boxes, starting with this one.

The ChartWizard - Step 2 Of 5 dialog box (see Figure 5-6) presents pictures of 15 chart types from which you can choose the type of chart you want to create. Earlier we said there are 14 chart types. The extra chart type, Combination, combines column and line chart elements for charts that show complex relationships between two or more data series. Excel automatically highlights a chart type that corresponds well with the selected data. You can select another chart type option, if you want to use a type other than the one Excel selects.

When you select the Next command button again, a third dialog box appears (ChartWizard - Step 3 Of 5) that presents a number of format, or subtype, options for the selected chart type. Select a format option, if desired, and the Next command button in the same way you did in the previous dialog box.

The fourth dialog box shows a sample of the selected chart type and subtype. In addition you can choose to have the data series represented in columns rather than rows (the default setting). This changes the orientation, or layout, of the chart elements representing data. **Orientation** refers to the placement of elements on the printed page. You can also select how the first rows and/or columns can be used for other elements like titles and legend text. Each change you make is reflected in the chart sample.

In the fifth ChartWizard dialog box you can specify whether you want the chart to include a legend, a title, and labels for the x- and y-axes. This dialog box includes a sample illustration to show you the effects of your changes.

Dialog boxes 2 through 5 in the ChartWizard's five-step procedure contain a Back command button so that you can readily go back and change your selections at any time during the procedure. When you select the Finish command button, the chart appears in the selected worksheet area (embedded) or in an inserted chart sheet, depending on which type of chart you specify.

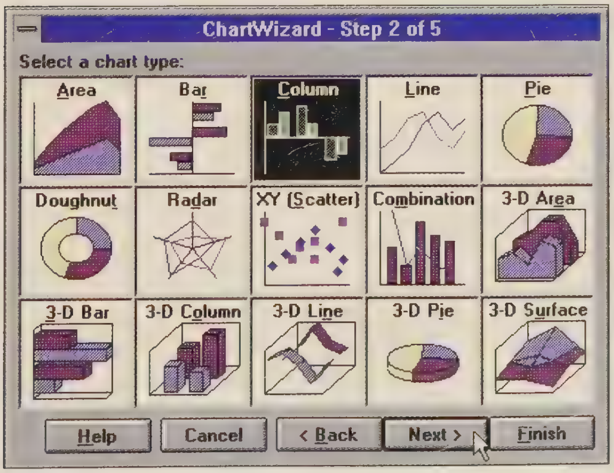


FIGURE 5-6

You select one of 15 chart types in ChartWizard's second dialog box.

CREATING A COLUMN CHART

Column and bar charts are fairly common charts for comparing values over a specific period. Each bar represents a single value. You can compare values within a single range by specifying a single data group, or you can chart a series of value ranges. Just select the amount of data you want represented in the chart.

CREATE A COLUMN CHART

You will open your budget workbook file and create an embedded column chart to represent itemized projected revenue for each month.

1. Load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary.
2. Make sure Excel is ready.
3. Select the Open button.
4. If necessary, select the drive and/or directory for the location of your work disk.
5. Open the file BUDGETS.XLS.
6. If necessary, select the 3Q-Budget tab.

   The third-quarter budget worksheet is active.
7. Select the range B5:E9.
8. Select the ChartWizard button.

   The mouse cursor changes to a chart selection cursor.
9. Click on the vertical scroll bar anywhere below the vertical scroll box.

   A blank area below the budget worksheet data should be visible in the worksheet window.
10. Position the mouse cursor over cell B26.
11. Press and hold the mouse button, drag a chart outline down to cell G42, and release the mouse button.

    The ChartWizard - Step 1 Of 5 dialog box appears. Notice that the selected range appears highlighted in the Range edit field.
12. Select the Next command button.

    The ChartWizard - Step 2 Of 5 dialog box appears. Notice that Excel highlights the Column chart type option automatically.
13. Make sure the Column chart type option is highlighted.
14. Select the Next command button.

    The ChartWizard - Step 3 Of 5 dialog box appears. Notice that Excel highlights chart subtype option 6 automatically.
15. If chart subtype option 6 is not highlighted, select it.

16. Select the Next command button.

    The ChartWizard - Step 4 Of 5 dialog box appears.

17. Select the Columns radio button for the Data Series In option, if necessary.

18. Select the Next command button.

    The ChartWizard - Step 5 Of 5 dialog box appears.

19. Click anywhere in the Chart Title text box.

20. Type **Third-Quarter Revenues**

21. Select the Back command button.

    The ChartWizard - Step 4 Of 5 dialog box appears.

22. Select the Rows radio button for the Data Series In option.

    The orientation of the chart's data changes, as shown in the sample chart.

23. Select the Finish command button.

    The chart appears in the selected range, as shown in Figure 5-7. Notice that the chart contains a legend, y-axis labels, and a title.

24. Select cell A1.

NOTE

You must deselect the embedded chart in order to be able to select cell A1.

25. Select the Save button.

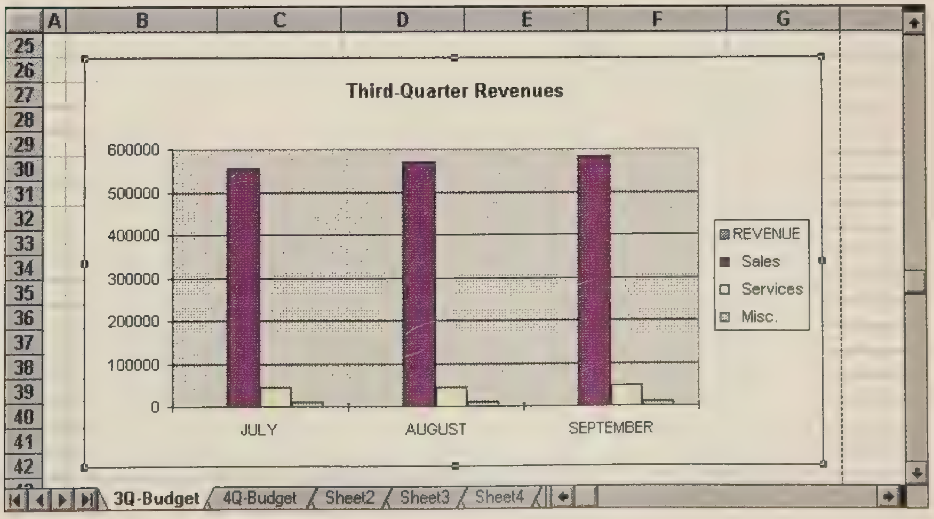
    The latest changes are saved to disk.

OBSERVE A CHANGE TO DYNAMICALLY LINKED DATA

You will make a change to the worksheet data and observe the change in the embedded chart.

FIGURE 5-7

After you complete ChartWizard's five-step procedure, your embedded column chart inserts in the selected range.



1. Make sure Excel is ready.
2. Scroll the worksheet, if necessary, so that you can view the revenue data in rows 7, 8, and 9.
3. Select cell D8, which contains the services revenue for August.
4. Type **444997.5** and press Enter.
5. Scroll the worksheet so that you can see the embedded chart.

   The current chart appears, as shown in Figure 5-8. Notice the dramatic change in services revenue for August and September (compare Figures 5-7 and 5-8).
6. Select the Undo button.

   The change made in step 4 is replaced with the original formula entry.
7. Scroll the worksheet so you can see the chart.

   Notice that the chart again appears as shown in Figure 5-7.
8. Select cell A1.
9. Select the Save button.

The latest changes are saved to disk.

CREATING A PIE CHART

Pie charts are excellent for illustrating the relative parts of a whole. On two-dimensional pie charts a circle (the pie) represents a whole value (see Figure 5-9); on three-dimensional pie charts a disk shape represents the whole value. Figure 5-3 shows an example of a 3-D pie chart. Each pie slice, or wedge, represents a percentage of the entire whole. This chart type is unique in that you can only represent a single data (value) range.

Pie charts can be formatted with a variety of subtypes. The subtypes control whether the chart's pie graphic appears with data labels, percentage indicators, and/or one or more exploded slices. An **exploded pie slice**

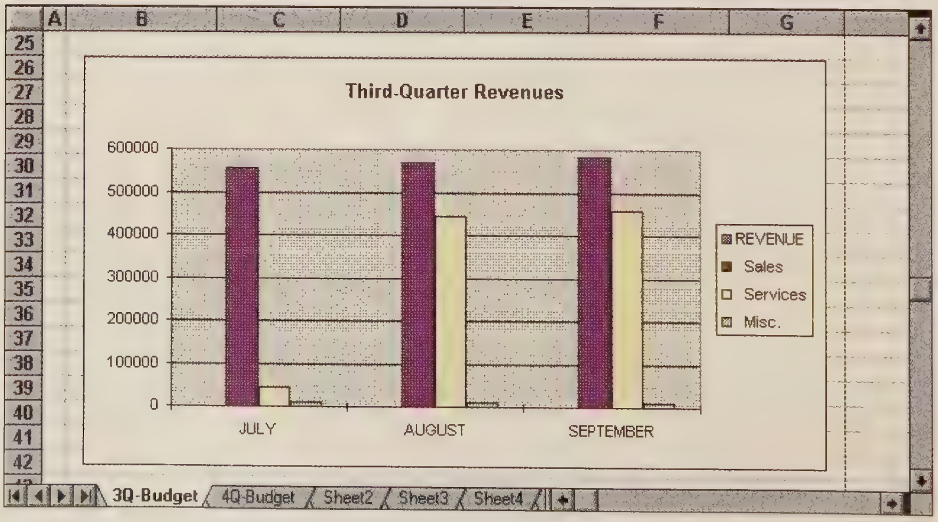
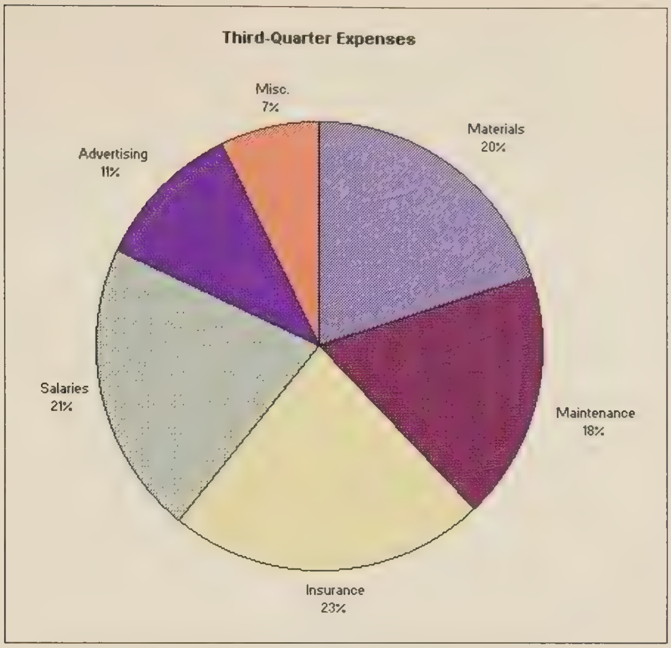


FIGURE 5-8
After changing data for the Services expense item, the chart reflects the change immediately. Compare this version of the chart with the one shown in Figure 5-7 to observe the effect on the chart from editing worksheet data.

FIGURE 5-9
In this two-dimensional pie chart, a circle is used for the pie symbol, which represents the whole. Three-dimensional pie charts, like the one shown in Figure 5-3, use a disk to represent the whole.

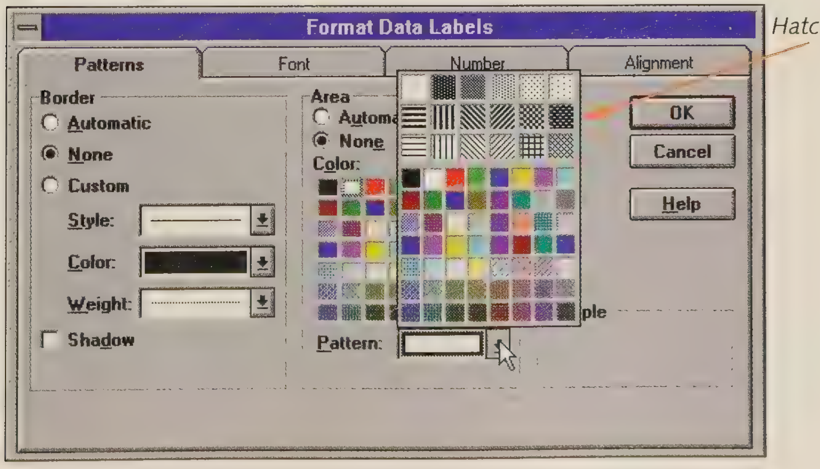


appears separated from the rest of the pie to emphasize a particular value. You can also explode one or more pie slices by moving them manually with the mouse, regardless of the pie chart subtype you select when you first create the pie chart.

MODIFYING COLORS AND HATCH PATTERNS

By default, pie charts appear with the pie slices represented by different colors, if you have a color monitor. If you don't have a color monitor, the slices are distinguished by different patterns, or shading. It is also possible to use Excel options to apply other patterns, called hatch patterns, to the data points. A **hatch pattern** is a shading effect made up of fine parallel and/or crossed lines or dots. In addition to the color options, there are 18 hatch patterns with which you can format pie slices, as shown in the dialog box appearing in Figure 5-10.

FIGURE 5-10
You can choose from a set of 18 hatch patterns to apply to pie wedge slices, bars, and columns in Excel charts.



Hatch patterns

The easiest method to use for changing a chart element's color or hatch pattern is to double-click the mouse button with the mouse cursor positioned over the element you want to modify. This displays a dialog box of options for the element you've selected. For example, if you double-click on a pie slice, the dialog box shown in Figure 5-11 appears. The options you modify will affect only the chart element you have selected. You can also access dialog boxes for other elements in this manner; simply double-click on the element.

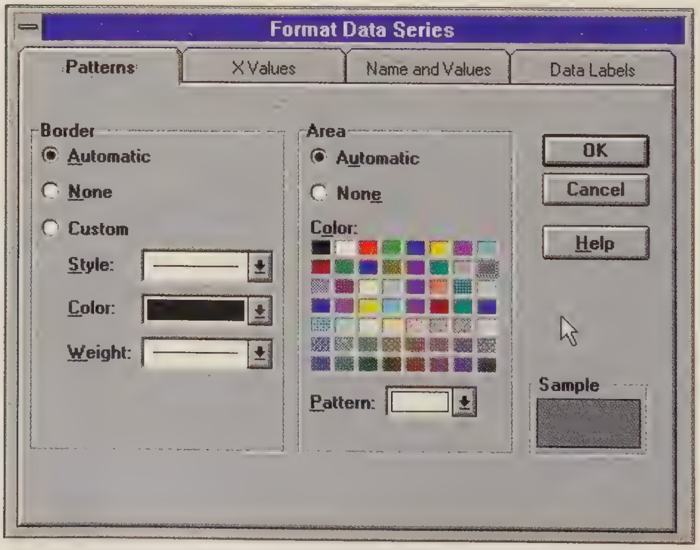
HIDING COLUMNS AND ROWS

While building worksheets and creating charts, you may need to hide one or more columns of data temporarily. With respect to this lesson's topic, you will need to hide some columns to help you create a pie chart from data ranges that are not adjacent to one another. There are several methods you can use in Excel to hide columns and rows. The Column command and the Row command on the Format pull-down menu display pop-up menus that each contain a Hide command. You can hide either the active column or row, or a selected range of columns or rows with these commands.

The Edit pop-up menu that appears when you click the right mouse button over the worksheet window also contains a Hide command. This command likewise hides selected columns or rows.

HIDE COLUMNS

You will soon create a pie chart illustrating the range of expense totals for the active worksheet. However, because the range of expense labels is not adjacent to the range of totals, you will first hide the columns of data between those two columns.



Border: ● Automatic

Area: ● Automatic

FIGURE 5-11

When you double-click on a chart element, a dialog box appears with options that correspond to the selected element.

1. Make sure Excel is ready.
2. Make sure the 3Q-Budget worksheet is active.
3. Select columns C, D, and E by dragging the mouse cursor across the column letters on the worksheet frame.
4. Click the right mouse button.

   A pop-up menu with editing and formatting commands appears.
5. Select the Hide command.

   The selected columns are hidden, as shown in Figure 5-12.

CREATE A PIE CHART

You will create a pie chart to represent total expenses for the quarter.

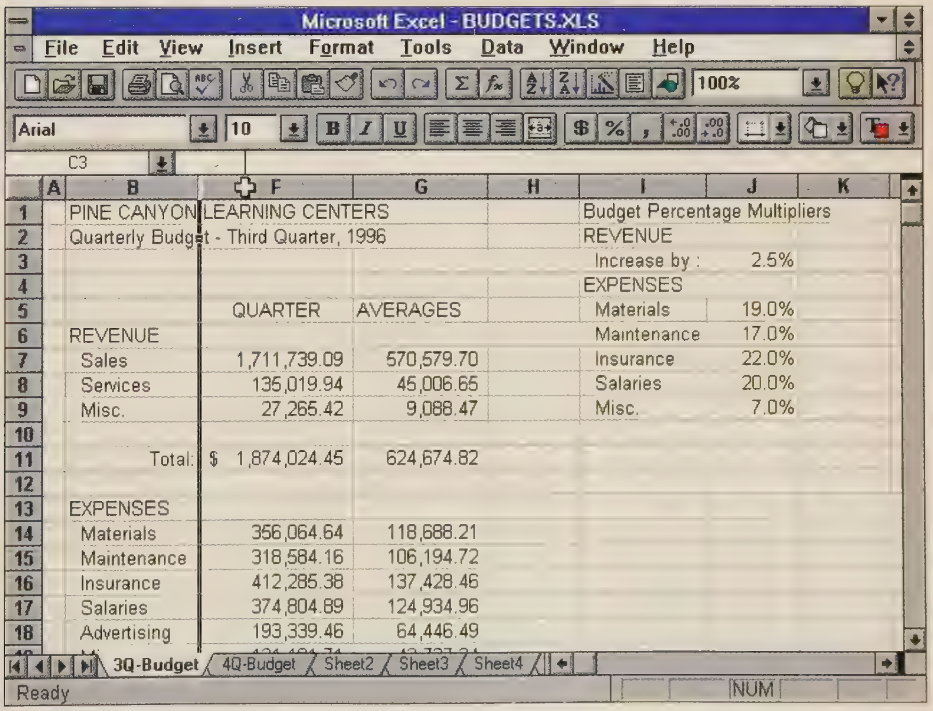
1. Make sure Excel is ready.
2. Select the range B14:F19.

   With columns C, D, and E hidden, the range of expense labels and expense totals for the quarter is highlighted.
3. Select the Insert pull-down menu.
4. Select the Chart command.

   The Chart command pop-up menu appears.

FIGURE 5-12

After you hide columns C, D, and E, your active worksheet should look like this.


Microsoft Excel - BUDGETS.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
C3
3Q-Budget
4Q-Budget
Sheet2
Sheet3
Sheet4
Ready
NUM

	A	B	F	G	H	I	J	K
1		PINE CANYON LEARNING CENTERS				Budget Percentage Multipliers		
2		Quarterly Budget - Third Quarter, 1996				REVENUE		
3						Increase by :	2.5%	
4						EXPENSES		
5			QUARTER	AVERAGES		Materials	19.0%	
6		REVENUE				Maintenance	17.0%	
7		Sales	1,711,739.09	570,579.70		Insurance	22.0%	
8		Services	135,019.94	45,006.65		Salaries	20.0%	
9		Misc.	27,265.42	9,088.47		Misc.	7.0%	
10								
11		Total:	$ 1,874,024.45	624,674.82				
12								
13		EXPENSES						
14		Materials	356,064.64	118,688.21				
15		Maintenance	318,584.16	106,194.72				
16		Insurance	412,285.38	137,428.46				
17		Salaries	374,804.89	124,934.96				
18		Advertising	193,339.46	64,446.49				

5. Select the As New Sheet command.

   The ChartWizard - Step 1 Of 5 dialog box appears.

6. Select the Next command button.

   The ChartWizard - Step 2 Of 5 dialog box appears.

7. Select the 3-D Pie option to highlight it.
8. Select the Next command button.

   The ChartWizard - Step 3 Of 5 dialog box appears.

9. Select subtype option 3 to highlight it.
10. Select the Next command button.

    The ChartWizard - Step 4 Of 5 dialog box appears.

11. Select the Columns radio button for the Data Series In option, if necessary.
12. Select the Next command button.

    The ChartWizard - Step 5 Of 5 dialog box appears.

13. Make sure the No radio button for the Add A Legend? option is selected.
14. Click on the text box for the Chart Title option.
15. Type **Third-Quarter Expense Totals**
16. Select the Back command button.

    The ChartWizard - Step 4 Of 5 dialog box appears.

17. Select the Back command button.

    The ChartWizard - Step 3 Of 5 dialog box appears.

18. Select chart subtype option 7.

    Notice that you can go back to any previous ChartWizard dialog box to modify options.

19. Select the Finish command button.

    A chart sheet inserts in front of the active worksheet, and the pie chart appears, as shown in Figure 5-13.

20. Select the 3Q-Budget tab.

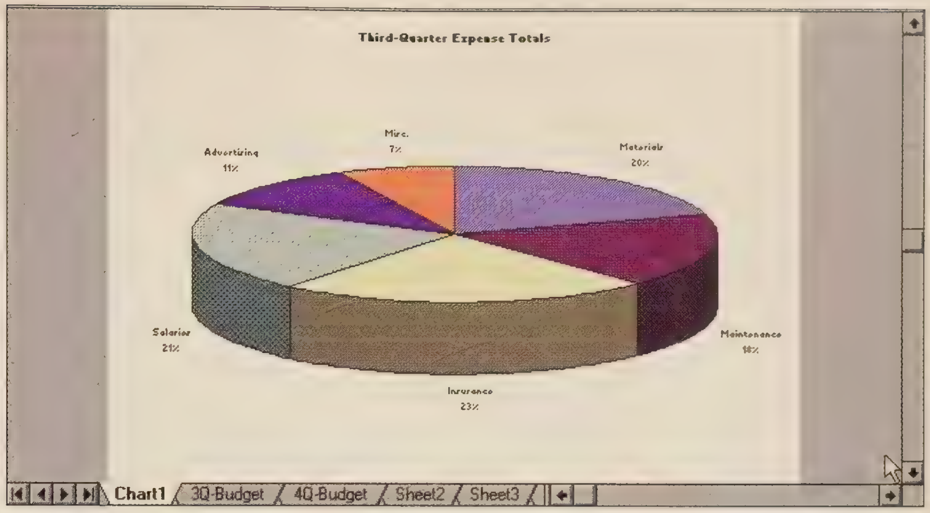
    The active worksheet reappears.

21. Select cell A1.
22. Select the Save button.

    The latest changes are saved to disk.

FIGURE 5-13

After you insert the new chart sheet, the pie chart you created appears, by itself, in the worksheet window.



MODIFYING CHART ELEMENTS

There are a number of options you can use to modify the elements in any chart you create to represent worksheet data. To edit specific elements individually, such as a pie slice, a bar or column, an axis, or a legend, simply double-click on the element. This will cause a dialog box to appear with options that correspond to the element.

You can modify chart elements by selecting Format pull-down menu options that become available when a chart is selected (active) in the worksheet window. For example, you can modify the positioning of the pie graphic in 3-D pie charts, or similar elements in other 3-D chart types, in a number of ways by selecting the 3-D View command on the Format menu. The options in the Format 3-D View option allow you to make adjustments to the angle and positioning of the graphic image that makes up the particular chart.

MODIFY THE PIE CHART

You will make some modifications to the active pie chart.

1. Make sure Excel is ready.
2. Select the Chart1 tab.

   The pie chart appears.
3. Click on any pie slice.

   All pie slices for the data series are selected.
4. Position the mouse cursor over any pie slice.

5. Press and hold down the mouse button.

   An outline of the entire pie appears.

6. While holding the mouse button, drag the outline so that it expands about $^{1}/_{8}$- to $^{1}/_{4}$-inch larger than the existing pie.

7. Release the mouse button.

   The pie reappears with all slices exploded, as shown in Figure 5-14.

8. Select the Format pull-down menu.

9. Select the 3-D View command.

   The Format 3-D View dialog box appears. Notice that the active Elevation setting is highlighted.

10. Type 30

11. Select the Apply command button.

    The adjustment is shown in the dialog box's sample box.

12. Select the OK command button.

13. Select any of the data labels visible on the chart.

    Selection handles appear to the right and left of all of the chart's data labels.

14. Select any of the data labels visible on the chart.

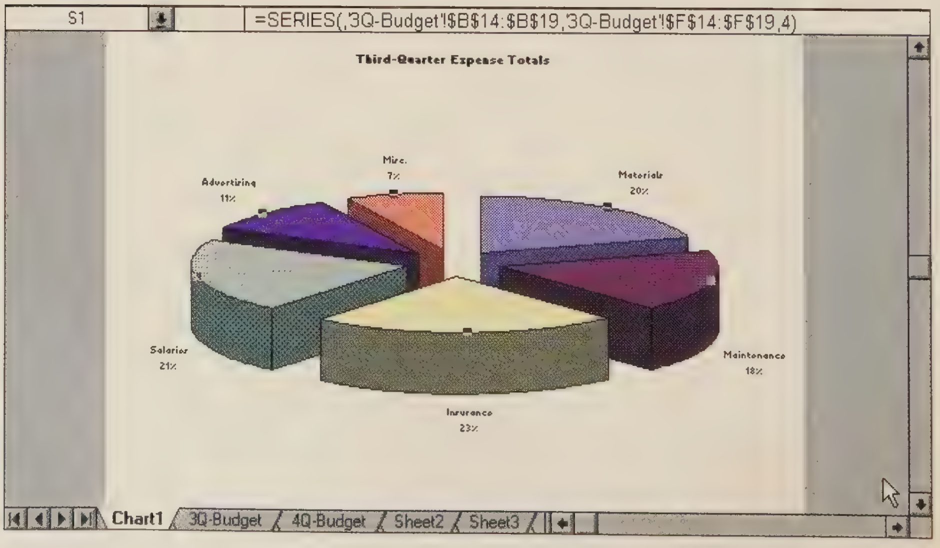
    A box with eight selection handles appears around the selected label only. An example is shown in Figure 5-15.

15. Position the mouse cursor over the selected data label's border, and drag the selected data label onto its pie slice.

    The selected data label is moved over its pie slice. An example is shown in Figure 5-16.

FIGURE 5-14

After you explode all the pie chart's slices, your chart sheet should look like this.



S1

=SERIES(,'3Q-Budget'!$B$14:$B$19,'3Q-Budget'!$F$14:$F$19,4)

FIGURE 5-15

When you select an item in a chart, such as the data label shown here, an outline appears around the selected object with eight sizing handles.

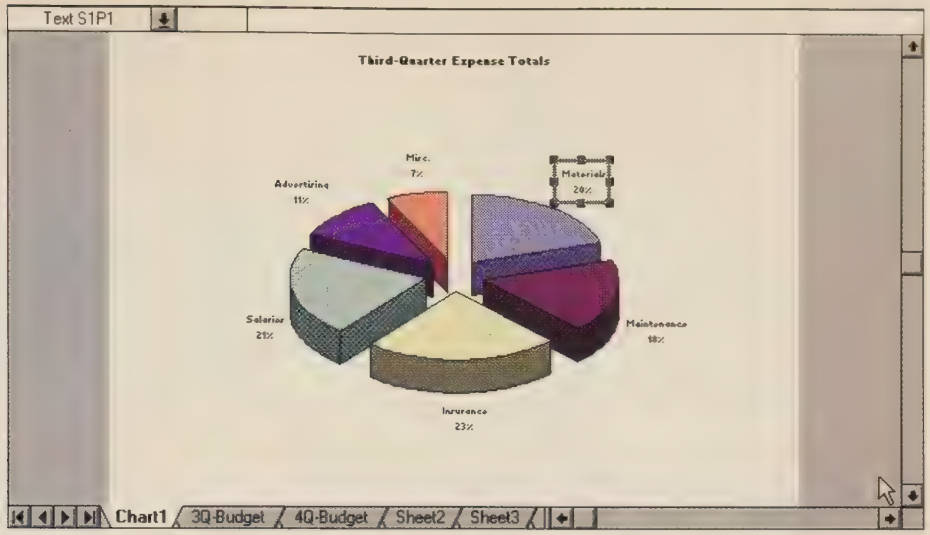
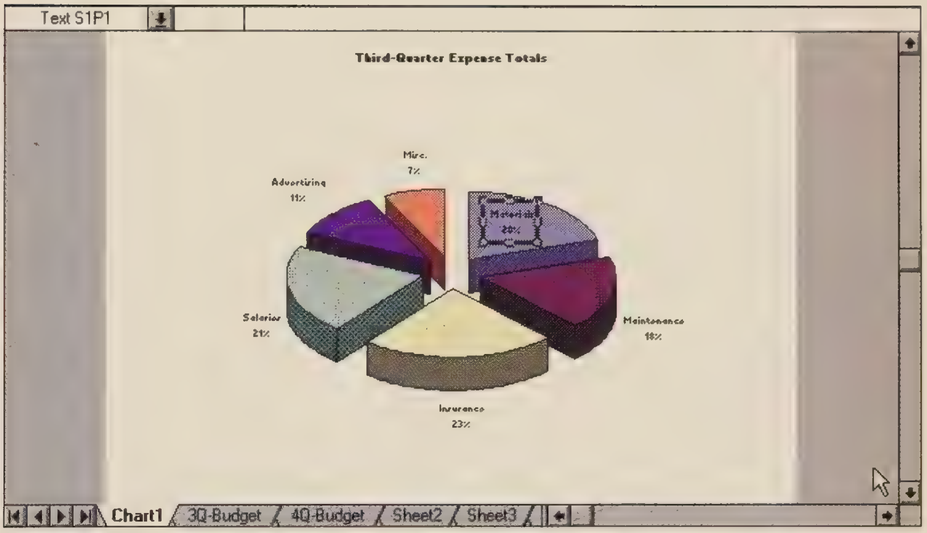


FIGURE 5-16

After you move the selected data label, it should appear directly over its corresponding pie slice (wedge) like this.



16. Select and drag each remaining data label onto its corresponding pie slice.

    After you move all the labels, your pie chart should appear similar to the one shown in Figure 5-17.

17. Select the 3Q-Budget tab.

    The third-quarter budget worksheet is active.

18. Select columns B and F.
19. Select the Format pull-down menu.
20. Select the Column command.

    The Column command's pop-up menu appears.

21. Select the Unhide command.

    Columns C, D, and E are no longer hidden.

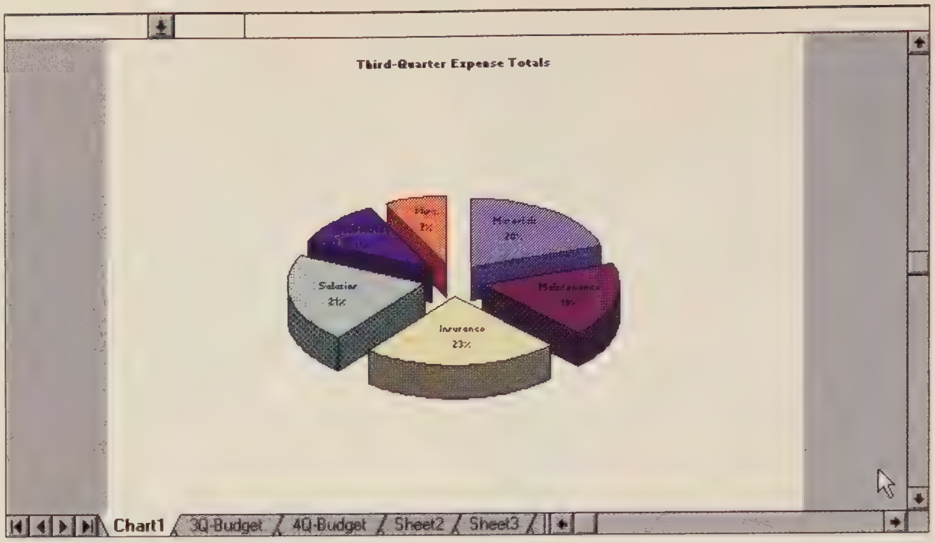


FIGURE 5-17
After you move all of the data labels, your pie chart should look similar to this.

22. Select cell A1.
23. Select the Save button.

    The latest changes are saved to disk.

MODIFY THE EMBEDDED COLUMN CHART

Before printing the charts, you will modify the embedded column chart in the 3Q-Budget worksheet.

1. Make sure Excel is ready.
2. Select the 3Q-Budget tab, if necessary.
3. Scroll the worksheet so that you can see the embedded column chart.
4. Double-click anywhere on the embedded column chart object.
5. Select the chart's legend.

   Selection handles appear around the legend.
6. Select the REVENUE item.

   Selection handles appear around the REVENUE item.
7. Press Del.

   The item is removed from the legend.
8. Click on any cell outside of the embedded chart's range.

NOTE

You may have to click more than once to completely deselect the chart object.

9. Select cell A1.
10. Select the Save button.

    The latest changes are saved to disk.

PRINTING CHARTS

You can print charts in much the same way you print worksheet data. Embedded charts can be printed along with corresponding data, simply by printing the selected sheet (active page) or a range selection that includes the embedded chart. To print a chart sheet, first make sure its worksheet (for an embedded chart) or its sheet (separate chart sheet) is active. Then print the sheet using the same procedure you use to print an active worksheet. Like printing worksheet data, you can make adjustments to any settings that affect the printed hard copy, including margins, image alignment (centering), headers and footers, gridlines' display, or any other print setting.

PRINT THE WORKSHEET AND EMBEDDED CHART

You will print the embedded column chart along with the budget data.

1. Make sure Excel is ready.
2. Select the 3Q-Budget tab, if necessary.

   The budget worksheet with the embedded column chart is active.

3. Select the Print Preview button.

   The Print Preview window appears.

4. Select the Margins command button.

   Markers representing margins and column boundaries appear, as shown in Figure 5-18.

5. Select the Setup command button.

   The Page Setup dialog box appears.

6. Select the Margins tab.
7. Make sure all margins are set for 1 inch.
8. Make sure the Horizontally and Vertically check boxes in the Center On Page group contain Xs.
9. Select the Header/Footer tab.
10. Select the Header option's drop-down list arrow.
11. Scroll to the top of the list, if necessary, and select the [none] option.
12. Repeat the procedure outlined in steps 10 and 11 to select the [none] option for the footer.
13. Select the OK command button.

    The Print Preview window is again active. Your worksheet image should look similar to Figure 5-19.

FIGURE 5-18

The Print Preview window displays a full-page facsimile of how your worksheet's overall layout will appear on the printed page.

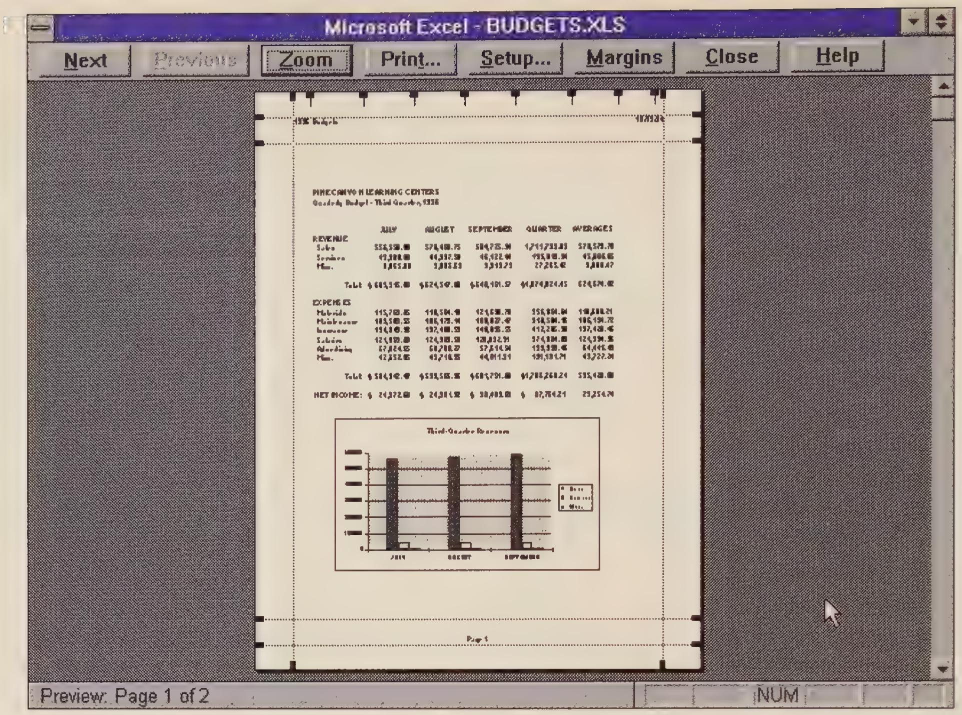
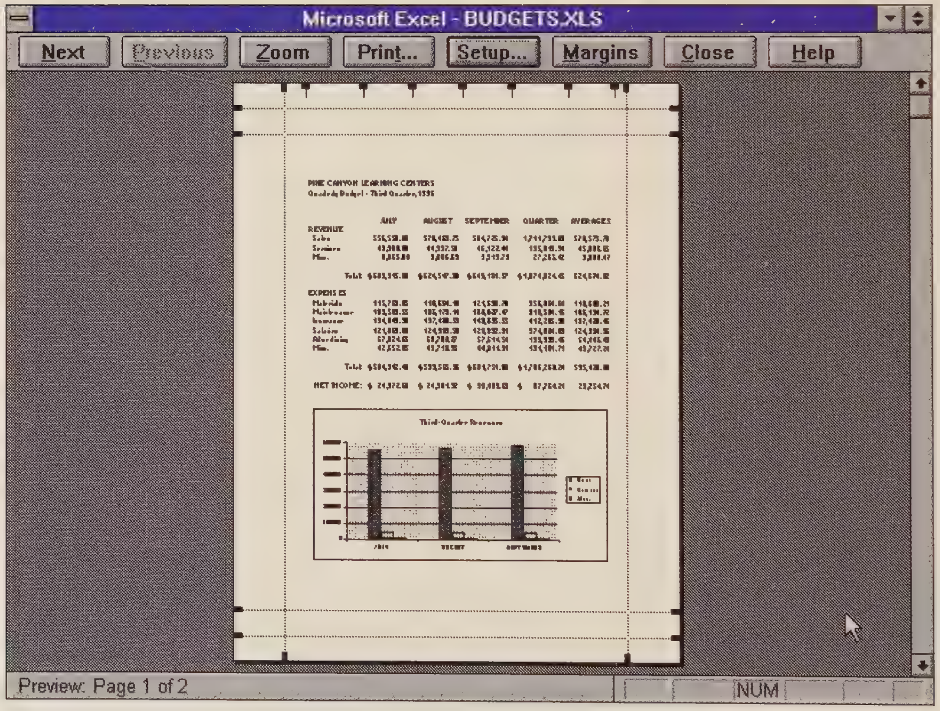


FIGURE 5-19

Changes to the worksheet's page setup options are reflected in this Print Preview window view.



14. Make sure the printer connected to your system has paper and is ready to print.

15. Select the Print command button.

The current worksheet, including the embedded column chart, prints.

NOTE *Both pages for the active sheet will print.*

PRINT THE CHART SHEET

Now you will print the separate chart sheet containing the 3-D pie chart.

1. Select the Chart1 tab.

   The pie chart sheet is active.

2. Select the Print Preview button.

   The Print Preview window appears.

3. Check the appearance of your pie chart. Note any items that may require adjustments, such as the placement of data labels.
4. Select the Close command button.
5. Double-click on the chart's title text.

   The Format Chart Title dialog box appears.

6. Select the Patterns tab, if necessary.
7. Select the Custom radio button in the Border box.
8. Select the Shadow check box.
9. Select the OK command button.
10. Select the Print Preview button.

    The Print Preview window appears with the pie chart.

11. Select the Setup command button.

    The Page Setup dialog box appears.

12. Select the Header/Footer tab, if necessary.
13. Select the [none] options for the header and footer.
14. Select the OK command button.
15. Select the Close command button.

    The Print Preview window closes.

16. For each slice, make any adjustments to colors and/or patterns until the pie chart slices appear to your satisfaction.
17. Check the printer connected to your system to make sure it has paper and is ready to print.
18. Select the Print button.

    The 3-D pie chart prints.

19. Select the 3Q-Budget tab, and then select cell A1.
20. Select the Save button.

    The latest changes are saved to disk.

ENHANCING WORKSHEET DATA

The nice thing about programs developed for the Windows environment is that they give you a WYSIWYG display. **WYSIWYG** is an acronym for "What You See Is What You Get." This means that the image you see on screen very closely resembles how the data will look on paper when it is printed. This helps economize on paper because you don't have to print your worksheets several times until they look the way you want them to look.

Microsoft Excel for Windows provides you with many features that let you transform worksheet data and charts into presentation-quality documents.

In addition to the different fonts and font attributes (boldface, italics, and underline) that you can apply to worksheet data, you can enhance ranges with borders, colors, and shading.

FORMATTING RANGES WITH FONTS AND ATTRIBUTES

Fonts can help make printed worksheet data more appealing to the reader. A **font** is a specific typeface in a specific point size with one or more attributes or styles. For example, 12pt Times Roman bold italic is a font. Ten-point Courier is another font. A **typeface** is a named set of distinct design or style characteristics for the appearances of printed characters. Courier, Helvetica, and Times Roman are three names for typefaces. A **point** is a unit of measurement (approximately 1/72 of an inch) that refers to the height of a character. Font **attributes** (or **styles**) are enhancements to typefaces that make them appear lighter or heavier, or with other features. Boldface, italics, and underline are examples of font attributes. Excel for Windows provides an extensive set of fonts that you can assign to any range of cells. The procedure for specifying a font for a range of data is as follows:

- Select the range of data.
- Select the Format pull-down menu.
- Select the Cells command.
- Select the Font tab, if necessary, in the Format Cells dialog box.
- Select a Font name, style, and/or size, as necessary.

To format a range with a different font without using the pull-down menus, you can select a font name and size from the respective drop-down lists on the Formatting toolbar. The attribute buttons Bold, Italic, and Underline are also available on the Formatting toolbar.

APPLY A FONT TO A LABEL

You will apply fonts and font attributes to the worksheet's title labels.

1. Make sure Excel is ready.
2. Select cell B1.
3. Select the Format pull-down menu.
4. Select the Cells command.

   The Format Cells dialog box appears.

5. Select the Font tab, if necessary.

   The font options are available.

6. Scroll the Font list, if necessary, until you can see the Bookman Old Style font.
7. Select the Bookman Old Style font (or any available display font).
8. Scroll the Size list until you can see the 14pt option.
9. Select the 14pt option.
10. Make sure the Bold Font Style option is selected.
11. Select the OK command button.

    The worksheet's title label is formatted with the 14pt Bookman Old Style Bold font.

12. Select cell B2.
13. Select the Formatting toolbar's Font drop-down list arrow.

    The font drop-down list appears.

14. Scroll the list, if necessary, until you can see the Helvetica (or Helv) option.
15. Select the Helvetica font option.
16. Select the Formatting toolbar's Size drop-down list arrow.
17. Select the 12pt option.
18. Select the Italic button.

    The worksheet's subtitle label is formatted with the 12pt Helvetica Italic font.

19. Select cell A1.
20. Select the Save button.

    The latest changes are saved to disk.

CENTERING LABEL TEXT

In Lesson 2 you learned how to align label text within its cell, using either an alignment option in the Format Cells dialog box, or one of the alignment buttons on the Formatting toolbar. Excel also makes it possible for you to center label text across a range of cells. This is especially beneficial for centering a label, such as a worksheet title, across a row of cells so it appears centered across a printed page.

To center text across a range, you must first select the range, which must include the label text you want to center in the range's first (leftmost) cell. Then you can use one of two methods to center the text. Through the Format pull-down menu, you can select the Center Across Selection radio button from the Alignment options available in the Format Cells dialog box. Probably the more convenient method for carrying out this task is to select the Center Across Columns button on the Formatting toolbar.

CENTER LABELS ACROSS A RANGE

You will center the worksheet's title and subtitle across a range.

1. Make sure Excel is ready.
2. Select the range B1:G2.
3. Select the Center Across Columns button.

   The labels in cells B1 and B2 are centered across the selected range.
4. Select cell D1, and look at the Formula bar.

   Notice that the cell is blank even though it appears that it contains text in the worksheet window.
5. Select cell B1, and look at the Formula bar.

   Notice that the cell still contains the label text, which you have centered across the range B1:G1.
6. Select the Save button.

   The latest changes are saved to disk.

FORMATTING RANGES WITH BORDERS AND SHADING

In addition to fonts and attributes, or styles, you can adorn worksheet ranges with a variety of border and shading effects. **Borders** are lines, which can vary in weight or thickness, that outline a cell or range. You use borders to make a set of data stand out or provide lines of separation to make it easier for the reader's eye to discern different sets of adjacent data. Border lines can be applied to all sides of a range or selected sides.

Shading is an effect in which you can apply a color or a **pattern** as a background for a range. Patterns can be shades of gray, ranging from light gray to solid black. Excel also makes it possible for you to apply different colors to the characters that make up the content of a cell or range. Like borders, shading can help emphasize selected data for reading ease.

You can use the set of Borders options found in the Format Cells dialog box to format a range with borders and/or shading. Alternatively, the Formatting toolbar contains three buttons, each with a drop-down list arrow, that you can use to apply borders, shading, or font color to a selected range.

USING EXCEL'S AUTOFORMATS

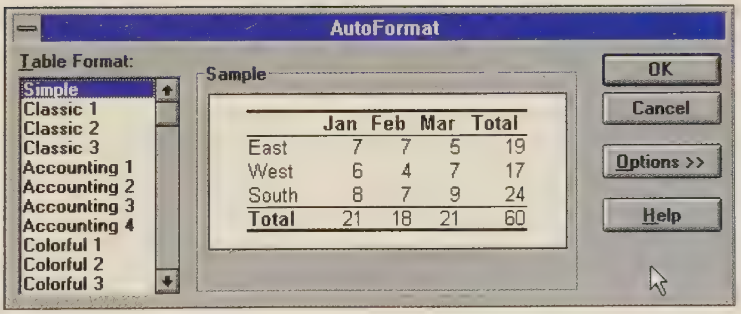
Because ranges of worksheet data are typically set up in a column-and-row, or tabular, arrangement, Excel defines the range that contains the data as a **table**. Thus, any formatting that you apply to parts of the table—fonts, font attributes, borders, shading, alignment, and other features—help make the table of information easier to read and understand.

However, achieving desirable format combinations by applying each feature separately can be a tedious process. That's why Excel provides a means for you to apply one of several preset combinations of formatting, called an **autoformat**, to a range of tabled information in a worksheet. This allows you to quickly format a range of tabled information with a variety of formats, without having to make the sometimes tedious adjustments so the data appears the way you want it.

An autoformat can be applied to a selected range by selecting the AutoFormat command on the Format pull-down menu. As you can see in Figure 5-20, the AutoFormat dialog box contains a list of named table format combinations. When you highlight a Table Format option, a sample appears in the Sample box. Selecting an option and then selecting the OK command button applies all the formatting characteristics shown in the sample to the selected range in your worksheet.

FIGURE 5-20

The AutoFormat dialog box allows you to select one of several formatting schemes for tabled data.



	Jan	Feb	Mar	Total
East	7	7	5	19
West	6	4	7	17
South	8	7	9	24
Total	21	18	21	60

APPLY FORMATTING TO RANGES

You will format selected ranges with borders, shading, and font colors.

1. Make sure Excel is ready.
2. Select the range B5:G11.

   The table of revenue data is selected.
3. Select the Format pull-down menu.
4. Select the AutoFormat command.

   The AutoFormat dialog box appears.
5. Click on the Classic 1 option in the Table Format list.

   A sample of this formatting combination appears in the sample box.
6. Click on the Classic 2 option.

   A sample of this formatting combination appears in the Sample box.
7. Click on the OK command button.

   The Classic 2 autoformat is applied to the selected range.
8. Select any cell outside the currently selected range.

   The range appears with the Classic 2 autoformat, as shown in Figure 5-21. Notice that this autoformat applies a combination of font colors, borders, shading, label alignment, and other features.

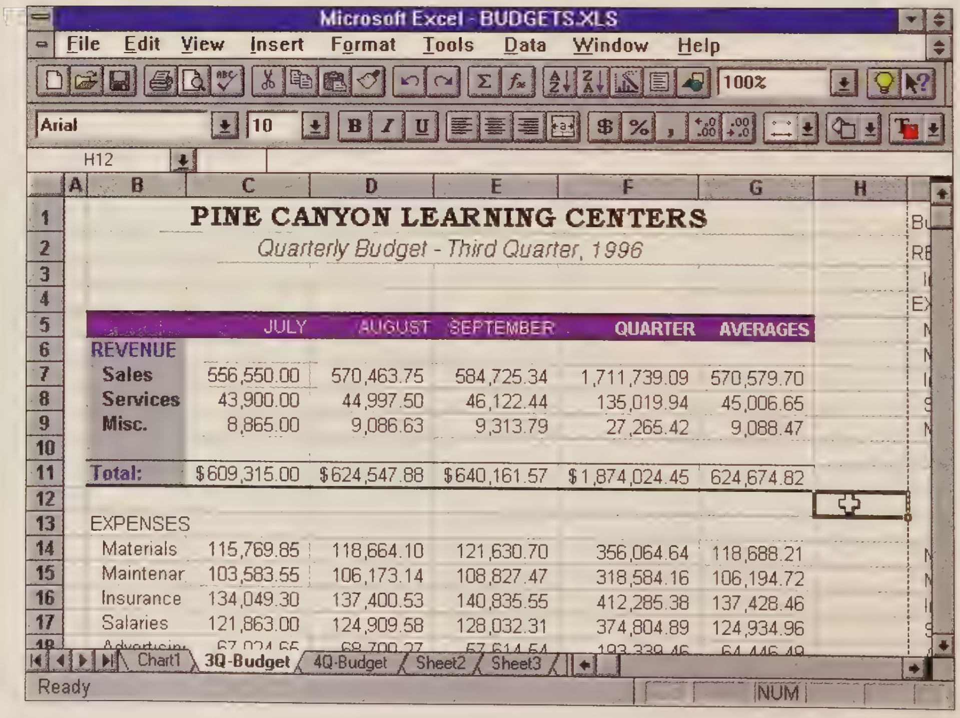


FIGURE 5-21

After you apply the Classic 2 autoformat, your selected worksheet data should appear similar to this.

	A	B	C	D	E	F	G	H
1		PINE CANYON LEARNING CENTERS						
2		Quarterly Budget - Third Quarter, 1996						
3								
4								
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES	
6		REVENUE						
7		Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47	
10								
11		Total:	$609,315.00	$624,547.88	$640,161.57	$1,874,024.45	624,674.82	
12								
13		EXPENSES						
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21	
15		Maintenar	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72	
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46	
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96	

9. Select the range B5:G5.

10. Select the Color button's drop-down menu arrow.

    A drop-down menu of colors appears, as shown in Figure 5-22.

11. Select the dark gray option that is beneath the mouse cursor shown in Figure 5-22.

    The selected color is applied to the selected range.

12. Select the range G5:G11.

13. Select the Border button's drop-down menu arrow.

    A drop-down menu of border options appears, as shown in Figure 5-23.

14. Select the left border option that is beneath the mouse cursor shown in Figure 5-23.

    The selected border is applied to the selected range.

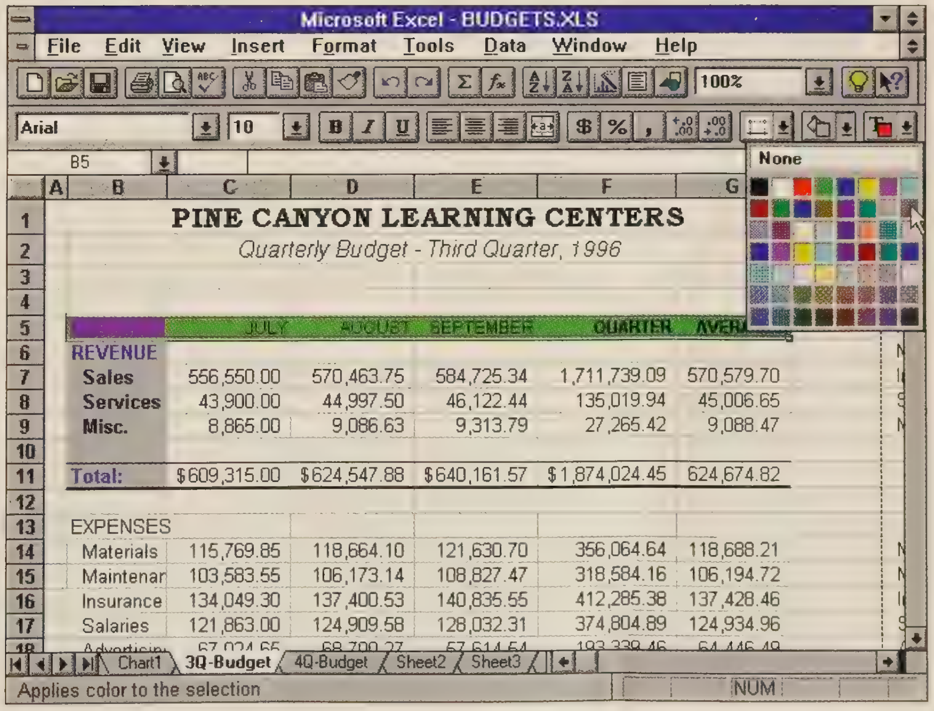
15. Select any cell outside the selected range.

    The border is visible along the left edge of the range of average revenue calculations.

16. Select cell A1.

17. Select the Save button.

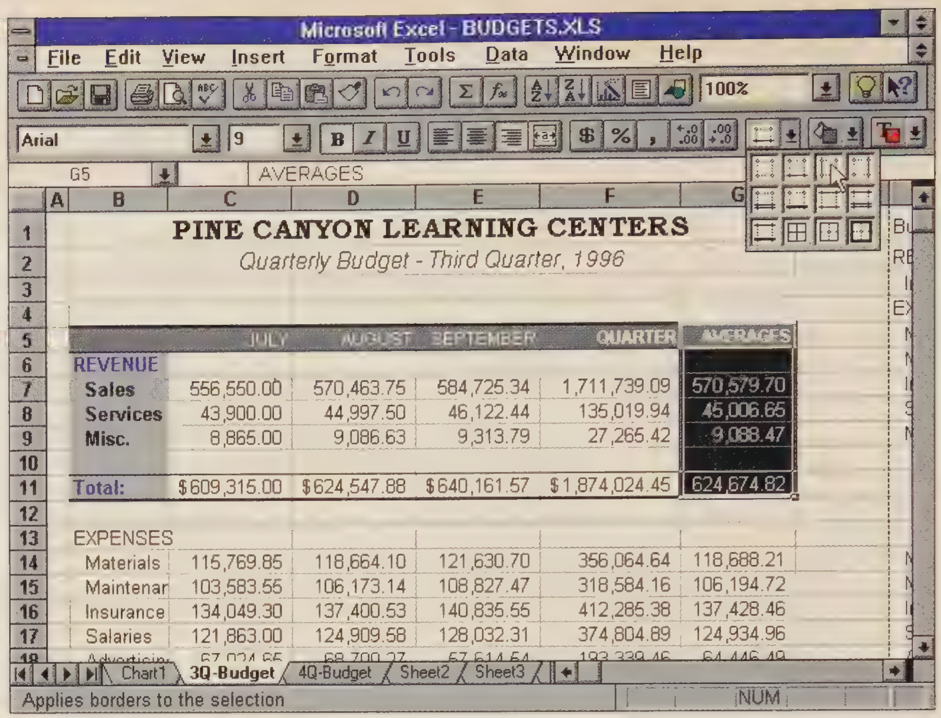
    The latest changes are saved to disk.



	A	B	C	D	E	F	G
1		PINE CANYON LEARNING CENTERS					
2		*Quarterly Budget - Third Quarter, 1996*					
3							
4							
5			JULY	AUGUST	SEPTEMBER	QUARTER	AVERA
6		REVENUE					
7		**Sales**	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70
8		**Services**	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65
9		**Misc.**	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47
10							
11		Total:	$609,315.00	$624,547.88	$640,161.57	$1,874,024.45	624,674.82
12							
13		EXPENSES					
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21
15		Maintenar	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96

FIGURE 5-22

The Formatting toolbar's Color button displays a color palette from which you can select a pattern color for the selected range. Be sure to select the dark gray color shown at the mouse cursor position in the figure.



G5 AVERAGES

	B	C	D	E	F	G
1	PINE CANYON LEARNING CENTERS					
2	Quarterly Budget - Third Quarter, 1996					
3						
4						
5		JULY	AUGUST	SEPTEMBER	QUARTER	AVERAGES
6	REVENUE					
7	Sales	556,550.00	570,463.75	584,725.34	1,711,739.09	570,579.70
8	Services	43,900.00	44,997.50	46,122.44	135,019.94	45,006.65
9	Misc.	8,865.00	9,086.63	9,313.79	27,265.42	9,088.47
10						
11	Total:	$609,315.00	$624,547.88	$640,161.57	$1,874,024.45	624,674.82
12						
13	EXPENSES					
14	Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21
15	Maintenar	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72
16	Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46
17	Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96

Applies borders to the selection

FIGURE 5-23

The Formatting toolbar's Border button displays a selection of border options from which you can apply a border to one or more sides of the selected range. Be sure to select the left border option shown at the mouse cursor position in the figure.

COPYING FORMAT FEATURES

Excel gives you the convenience of copying formatting characteristics from one range to another without affecting any data, other than their display in the worksheet window and on paper. The most efficient way to copy formatting is to use the Format Painter button on the Standard toolbar. The Format Painter button allows you to copy formatting characteristics applied to selected cells to one or more ranges. You perform this task by first selecting a range that contains the format characteristics you want to copy. Then select the Format Painter button; the selected range is enclosed by a flickering, dashed outline. To complete the task, select the target range (or just click on the upper-left corner cell). All the format characteristics associated with the source range copy to the target range.

TIP

If you want to copy formatting to several, nonadjacent ranges, double-click on the Format Painter button. Then simply click on the cells that are to be in the upper-left corners of the target ranges. When you are through with the copying task, click once on the Format Painter button.

It is also possible to carry out this operation through the Edit pull-down menu. First, you must copy the data—either with the Copy command (on the Edit menu) or with the Copy button. Next select the Paste Special command on the Edit pull-down menu. This command displays the Paste Special dialog box, which allows you to specify exactly what you want to copy from the source range: its contents, formatting, formulas only, values only, notes, or all these characteristics. Select the Formats radio button to copy only the source range's formatting to the target range.

COPY FORMATTING

You will use the Format Painter button to copy selected formatting combinations.

1. Make sure Excel is ready.
2. Select the range B6:G9.
3. Select the Format Painter button.

   The selected range is outlined by a flickering, dashed line.
4. Select cell B13.

   The formatting applied to the selected range is copied and applied to the same size range in the first four rows of expense data.
5. Select the range B7:G11.
6. Select the Format Painter button.

   The selected range is outlined by a flickering, dashed line.
7. Select cell B17.

   The formatting applied to the selected range is copied and applied to the same size range in the last five rows of expense data.
8. Select the range B21:G21.
9. Select the Format Painter button.

   The selected range is outlined by a flickering, dashed line.
10. Select cell B12.

    The formatting applied to the selected range is copied and applied to the same size range in row 12.
11. Select cell A1.
12. Select the Save button.

    The latest changes are saved to disk.

APPLY SHADING AND FONT COLOR

You will continue embellishing the worksheet data with formatting features.

1. Make sure Excel is ready.
2. Select the range C11:G11.

3. Press and hold Ctrl, and then select the range C21:G21.

   The two ranges of total calculations are selected.

4. Select the Color button's drop-down menu arrow.

5. Select the light gray option.

   The light gray shading is applied to the selected ranges.

6. Select the range F6:F20.

7. Select the Repeat button.

   The light gray shading is applied to the selected range.

8. Select the range B22:B23.

9. Select the Repeat button.

   The light gray shading is applied to the selected range.

10. Select the range B20:G21.

11. Select the Format Painter button.

    The selected range is outlined with a flickering, dashed line.

12. Select cell B22.

    The formatting applied to the selected range is copied and applied to the same size range.

13. Select cell F23.

    The cell containing the quarter's total net income calculation is active.

14. Select the Font Color button's drop-down menu arrow.

    The Font Color drop-down menu appears, as shown in Figure 5-24.

15. Select the White option at the mouse cursor position shown in Figure 5-24.

    The font color is applied to the result in the active cell.

16. Select the Bold button.

    The bold font attribute is applied to the active cell.

17. Select the Border button's drop-down menu arrow.

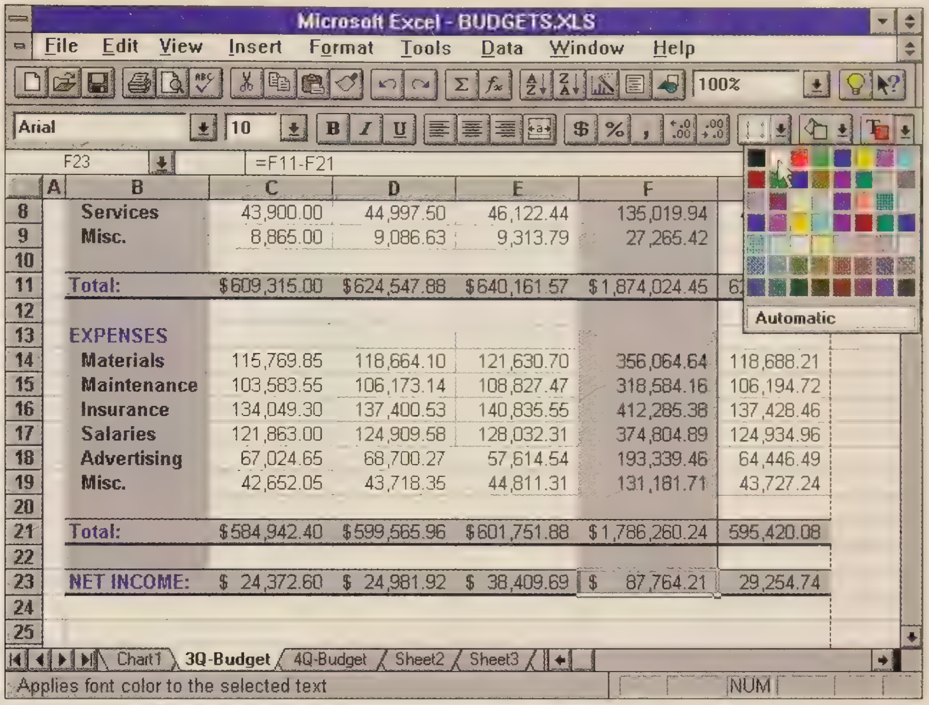
18. Select the thick outline option located in the lower-right corner of the menu.

    A thick border outlines the active cell.

19. Increase the width of column B, if necessary, to fully display any truncated labels.

20. Select cell A1, and select the Save button.

    The latest changes are saved to disk.


Microsoft Excel - BUDGETS.XLS
File Edit View Insert Format Tools Data Window Help
100%
Arial
10
Automatic
Chart1
3Q-Budget
4Q-Budget
Sheet2
Sheet3
NUM

F23 =F11-F21

	A	B	C	D	E	F	
8		Services	43,900.00	44,997.50	46,122.44	135,019.94	
9		Misc.	8,865.00	9,086.63	9,313.79	27,265.42	
10							
11		Total:	$609,315.00	$624,547.88	$640,161.57	$1,874,024.45	
12							
13		EXPENSES					
14		Materials	115,769.85	118,664.10	121,630.70	356,064.64	118,688.21
15		Maintenance	103,583.55	106,173.14	108,827.47	318,584.16	106,194.72
16		Insurance	134,049.30	137,400.53	140,835.55	412,285.38	137,428.46
17		Salaries	121,863.00	124,909.58	128,032.31	374,804.89	124,934.96
18		Advertising	67,024.65	68,700.27	57,614.54	193,339.46	64,446.49
19		Misc.	42,652.05	43,718.35	44,811.31	131,181.71	43,727.24
20							
21		Total:	$584,942.40	$599,565.96	$601,751.88	$1,786,260.24	595,420.08
22							
23		NET INCOME:	$ 24,372.60	$ 24,981.92	$ 38,409.69	$ 87,764.21	29,254.74
24							
25							

Applies font color to the selected text

FIGURE 5-24

The Formatting toolbar's Font Color button displays a color palette from which you can select a color for characters in the selected range. Be sure to select the White option shown at the mouse cursor position in the figure.

APPLYING FORMATTING TO AN OBJECT

When you insert an embedded chart in a worksheet, Excel considers the chart to be an object. There are other items you can insert as objects into a worksheet, but for the scope of this book we will focus on charts exclusively as embedded objects. As with ranges of worksheet data, you can apply certain format characteristics—such as borders and shading—to the object. You can do this with the Object command, which replaces the Cells command on the Format pull-down menu when an object, rather than a range, is selected (active).

APPLYING A SHADOW EFFECT

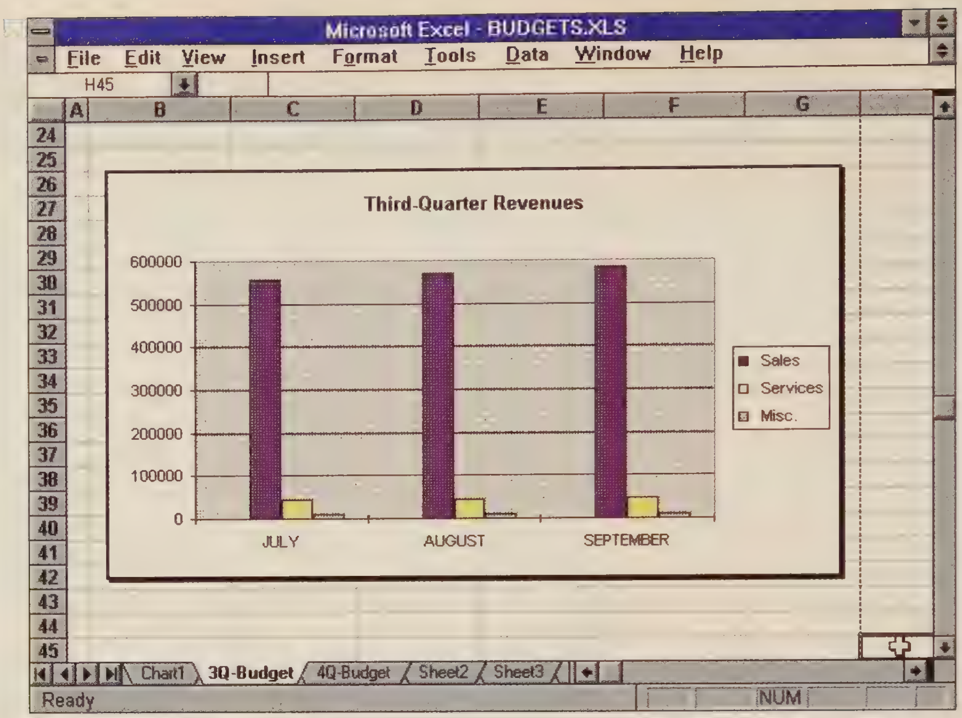
In addition to borders and shading, you can format a chart (object) with a shadow effect. A **shadow** is an effect that is created by combining two thin perpendicular left and top borders with two thick perpendicular right and bottom borders. This border arrangement gives the appearance of a shadow cast to the right of and below the object, as shown in Figure 5-25. You apply a shadow format to an object by selecting the Shadow check box available with the Pattern options in the Format Object dialog box.

APPLY A SHADOW EFFECT

You will apply a shadow format to the embedded chart in the active worksheet.

FIGURE 5-25

A drop-shadow effect can be applied to an embedded object in a worksheet. Excel applies a thicker line to the right and bottom borders to create the effect.



1. Make sure Excel is ready.
2. Scroll the worksheet so you can see the embedded column chart of third-quarter revenues.
3. Click anywhere on the chart to select it.

   Selection handles appear on the chart's borders.
4. Select the Format pull-down menu.
5. Select the Object command.

   The Format Object dialog box appears.
6. Make sure the Patterns set of options is active.
7. Select the Weight drop-down list arrow.
8. Select the Weight option beneath the mouse cursor shown in Figure 5-26.

   Notice that selecting this Weight option automatically selects the Custom radio button.
9. Select the Shadow check box.

   An X appears in the Shadow check box.
10. Select the OK command button.

    The border weight adjustment and a shadow effect are applied to the selected embedded chart. Your chart should appear similar to the one shown in Figure 5-27.

FIGURE 5-26

Select this line weight option from the Weight drop-down list in the Format Object dialog box. Be sure to select the option shown at the mouse cursor position in this figure.

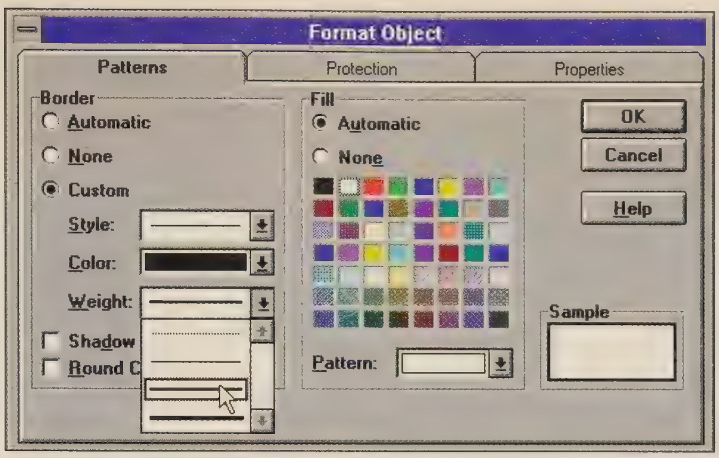
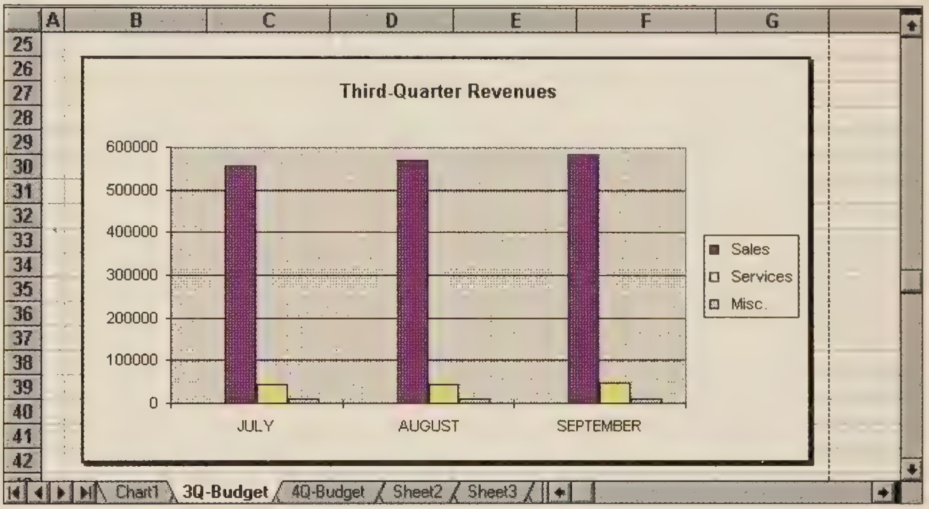


FIGURE 5-27

After you apply borders and a shadow to the selected embedded chart, your worksheet should look similar to this.



11. Use the mouse to scroll the worksheet, and select cell A1.
12. Select the Save button.

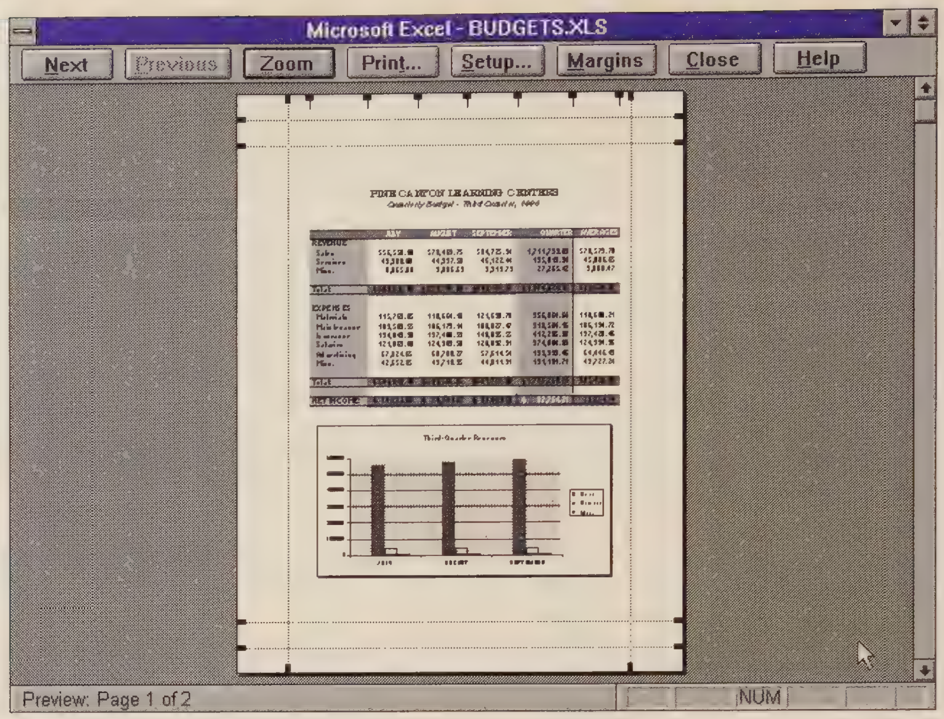
The latest changes are saved to disk.

PRINT THE ACTIVE WORKSHEET

You will now print the current version of your third-quarter budget worksheet.

1. Make sure Excel is ready.
2. Make sure you have saved the latest changes to your workbook file.
3. Select the Print Preview button.

The Print Preview window appears. Your budget document should look similar to the one shown in Figure 5-28.



Preview: Page 1 of 2

FIGURE 5-28

Your budget worksheet, including the embedded column chart, should appear similar to this in your Print Preview window.

4. Position the "magnifying glass" mouse cursor over the net income total for the quarter.
5. Click the mouse button to enlarge the view of the document.
6. Click the mouse button again to return to a full-page view.
7. Make sure the printer connected to your system is turned on, has paper, and is ready to print.
8. Select the Print command button.

   The Print dialog box appears.

9. Select the Page(s) radio button.
10. Type **1** and press Tab.
11. Type **1** and press Enter.

    The budget worksheet, including the embedded column chart, prints.

NOTE

Depending on the printer and your system, the amount of time for printing will vary.

12. Select cell A1.
13. Select the Save button.

    The latest changes are saved to disk.

NOTE

Some printers may not print text formatted with the white font color. If your document does not show text formatted with the white font color, change the font color to black for those elements and print your document again.

14. Close the active workbook file, or exit the Excel program.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Insert embedded chart	Insert, Chart, On This Sheet	Alt+i, h, o	📊
Insert chart sheet	Insert, Chart, As New Sheet	Alt+i, h, a	📊
Hide columns or rows	Format, Column (Row), Hide	Alt+o, c, h *or* Alt+o, r, h	
Reveal hidden columns	Format, Column (Row), Unhide	Alt+o, c, u *or* Alt+o, r, u	
Apply font	Format, Cells, Font	Alt+o, e, f	
Apply font attribute	Format, Cells, Font	Alt+o, e, f	B I U
Apply font color	Format, Cells, Font	Alt+o, e, f	T ▾
Center label text	Format, Cells, Alignment	Alt+o, e, a	↔
Apply borders	Format, Cells, Borders	Alt+o, e, b	▭ ▾
Apply shading	Format, Cells, Patterns	Alt+o, e, p	▨ ▾
Apply shadow effect	Format, Object, Patterns	Alt+o, e, p	
Apply autoformat	Format, AutoFormat	Alt+o, a	
Copy formatting	Edit, Copy, Edit, Paste Special	Alt+e, c Alt+e, s	🖌

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. chart type	**a.** Lines of varying thickness that surround cell or range
2. shadow	**b.** Part of chart in which graphic elements representing data appear
3. autoformat	**c.** Chart characteristic that determines graphic elements that represent data
4. data point	**d.** Size for printed characters that equals approximately $^1/_{72}$ inch
5. plot area	**e.** Shading effect created by sets of parallel or intersecting lines that can be vertical, horizontal, or diagonal
6. embedded chart	**f.** Graphic element in chart that represents single value
7. border	**g.** Set of characters in specific typeface, size, and style
8. hatch pattern	**h.** Format created by two sets of perpendicular borders, each in different weight or thickness
9. font	**i.** Named set of table format characteristics that can be applied to range
10. point	**j.** Chart that appears in worksheet

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer to each of the following questions:

1. What is an embedded chart?

- **a.** An object inserted into an active worksheet range
- **b.** An object existing on its own sheet
- **c.** An object included in Excel dialog boxes
- **d.** An object that exists on a toolbar

2. Worksheet data represented in charts is dynamically linked:

- **a.** To embedded charts only
- **b.** To charts on a separate sheet only
- **c.** To both embedded charts and charts on separate sheets
- **d.** To neither embedded charts nor charts on separate sheets

3. Chart types are distinguished by:
   - **a.** The values they represent
   - **b.** The colors of their elements
   - **c.** The placement of their axes
   - **d.** The elements that make up their graphic images

4. Which chart type would best represent percentages of a total or parts of a whole?
   - **a.** 3-D column chart
   - **b.** Pie chart
   - **c.** 3-D line chart
   - **d.** Radar chart

5. Which type of chart does *not* have an x-axis?
   - **a.** Line
   - **b.** Bar
   - **c.** XY (scatter)
   - **d.** Doughnut

6. Excel's ChartWizard feature:
   - **a.** Provides a five-step procedure for creating a basic chart
   - **b.** Provides extensive help information on creating charts
   - **c.** Provides magic tricks for creating charts quickly
   - **d.** Provides detailed instructions on creating embedded charts

7. An exploded pie slice is:
   - **a.** Broken up into small pieces
   - **b.** The largest slice in the pie graphic
   - **c.** Separated from the rest of the pie graphic
   - **d.** Missing entirely from the pie graphic

8. A named family or set of style characteristics for printed characters is called a(n):
   - **a.** Point
   - **b.** Attribute
   - **c.** Font
   - **d.** Typeface

9. A color or pattern that fills a range is called:
   - a. A border
   - b. Shading
   - c. A shadow
   - d. A block

10. The Format Painter button allows you to copy:
    - a. Borders only
    - b. Content only
    - c. Formatting and content
    - d. Formatting only

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Suppose you create several charts that represent various data ranges in a single worksheet. You intend to print each chart separately for a presentation. However, before you print the charts, you need to make several significant changes to the represented worksheet data. Describe the procedure you would use to ensure the printed charts represent the updated worksheet data accurately and that they print on separate sheets of paper.

2. A worksheet contains four value ranges that consist of inventory levels for eight products. Each range represents the inventory level for the end of a fiscal quarter. Suppose you are asked to create a chart that represents the changes in inventory levels over the fiscal year. Which type of chart will you create to represent the change in inventory levels over the year? What data can you use to represent the x-axis? Should the chart have a legend?

3. Suppose you must create a presentation-quality document that includes a 3-D bar chart of the worksheet data. This worksheet is updated weekly. You will have to print this document weekly to provide others with the updated versions of the worksheet data. Which kind of chart will work best in this situation, an embedded chart or a chart sheet? Why?

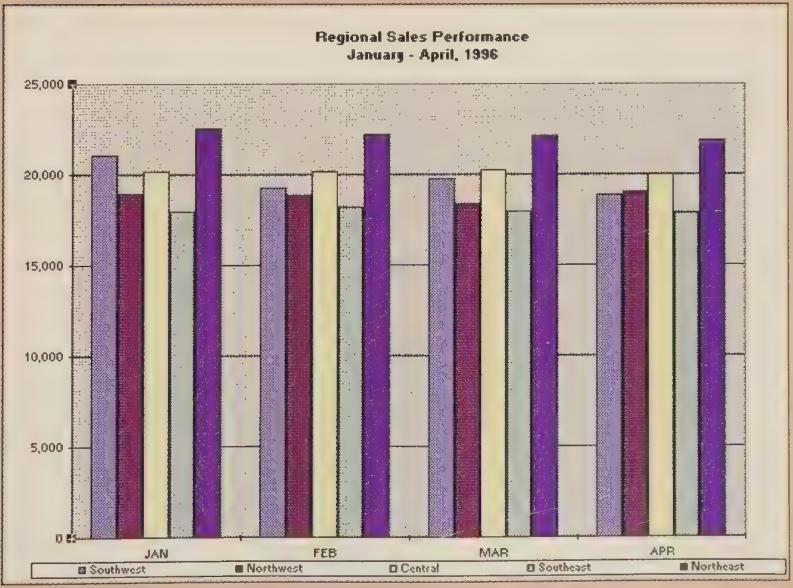
4. Suppose you create a pie chart that represents dollar amounts as percentages an organization collected for recycling six types of materials. You intend to emphasize the two pie slices that represent the amounts collected for cans and bottles, respectively. List the steps you would use to create this chart so it can be printed with a laser printer that cannot reproduce color.

APPLICATION PROJECTS

To complete the following projects, load the Microsoft Windows and Microsoft Excel for Windows programs, if necessary. Insert your work disk or Student Data Disk into drive A (or B). Change the working directory to the drive containing your work disk or Student Data Disk, if necessary.

1. Create a column chart that represents regional sales levels over a four-month period.
   a. If you did not complete application project 1 in Lesson 4, either go back and do it now, or open the file AP4_1STW.XLS.
   b. Hide the bonus columns C, E, G, I, and K. Also, hide the separation row 5.
   c. Create the column chart shown in Figure 5-29 on a separate chart sheet. The chart graphs subscriptions for JAN-APR, using default chart type and subtype selection.
   d. Be sure to include the range A4:A9 along with the regional sales figures for the four-month period.
   e. Enter the first and second lines of the chart's title as shown in the figure. Move the legend to the bottom of the chart and resize it as shown.
   f. Save the workbook file as SUBSALS5.XLS.
   g. Print the chart, and close the active workbook file.

FIGURE 5-29
Create this column chart on a separate chart sheet for application project 1.



2. Create a 3-D column chart to represent inventory flow for an automobile manufacturer's top manufacturing plants.
    - a. If you did not complete application project 2 in Lesson 4, either go back and do it now, or open the file AP4_2CIR.XLS.
    - b. Make the following edits to the worksheet: (1) Delete the state abbreviations in each of the column A labels. (2) Move or copy the label "Shipped" in cell C7 to cell C5. (3) Hide rows 6–8, 10, 14, 16, and 17.
    - c. Create the 3-D column chart shown in Figure 5-30 on a separate chart sheet. Begin by selecting the range A5:D18.
    - d. Select chart subtype 2, and be sure to select the Rows radio button for the Data Series in setting.
    - e. Enter the first, second, and y-axis titles for the chart, as shown. Resize and reposition the chart's legend, as shown.
    - f. Save the workbook file as INVRPRT5.XLS.
    - g. Print the chart, and then close the workbook file.

3. Create a combination chart and a pie chart to represent data in a water usage worksheet.
    - a. If you did not complete application project 3 in Lesson 4, either go back and do it now, or open the file AP4_3WUW.XLS.
    - b. Create the combination chart shown in Figure 5-31 on a separate chart sheet. The chart represents the number of days in each billing cycle and total water usage amounts for three billing periods. Begin by hiding columns B and C and row 10 and then selecting the range A9:E13.

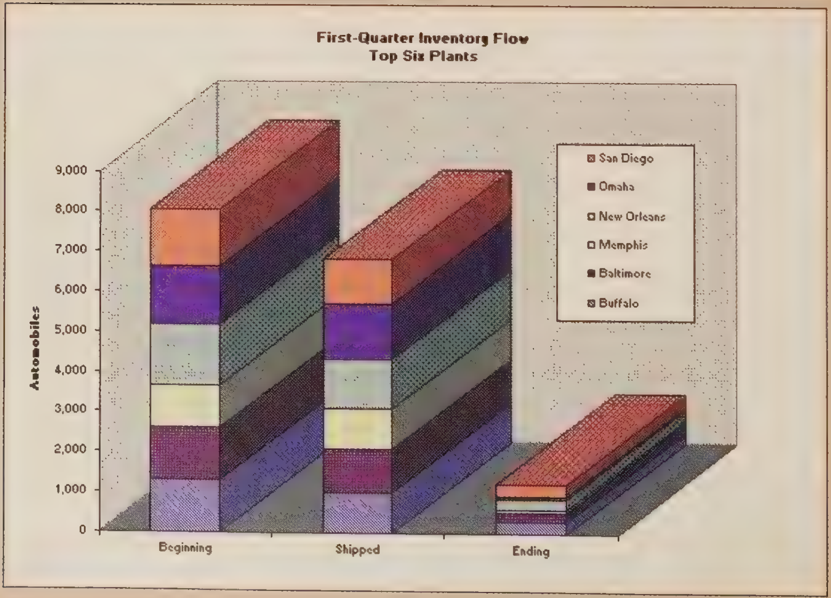
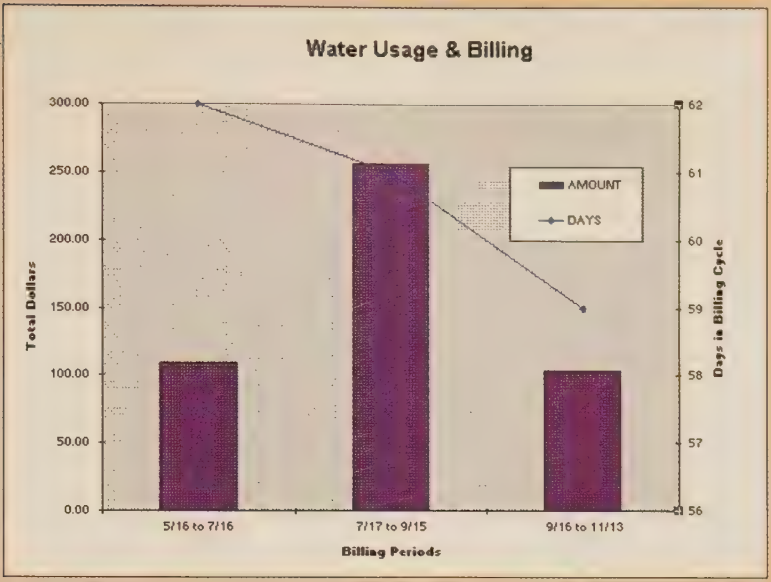


FIGURE 5-30
Create this 3-D column chart on a separate chart sheet for application project 2.

FIGURE 5-31

Create this combination chart on a separate chart sheet for application project 3.



c. Reposition and resize the chart's legend, as shown.

d. Enter the chart's title, the two y-axis titles, and the x-axis title, as shown. Modify the y-axis scale for days so that it represents the whole values 56–62.

e. Print the combination chart.

f. Unhide all hidden columns, and apply a bigger font and the bold attribute to the worksheet's title label. Format the rate table range (A3:C6) with an outline. Format the data in columns A through G with an outline. Format the range of monthly averages with a light background shade.

g. Create an embedded pie chart that represents the average water usage costs for June through October. Insert the chart in a range below the range of worksheet data.

h. Save the workbook file as WATRUSE4.XLS.

4. Create a bar chart that represents monthly mortgage payments on 30-year fixed loans at various interest rates for three principal amounts.

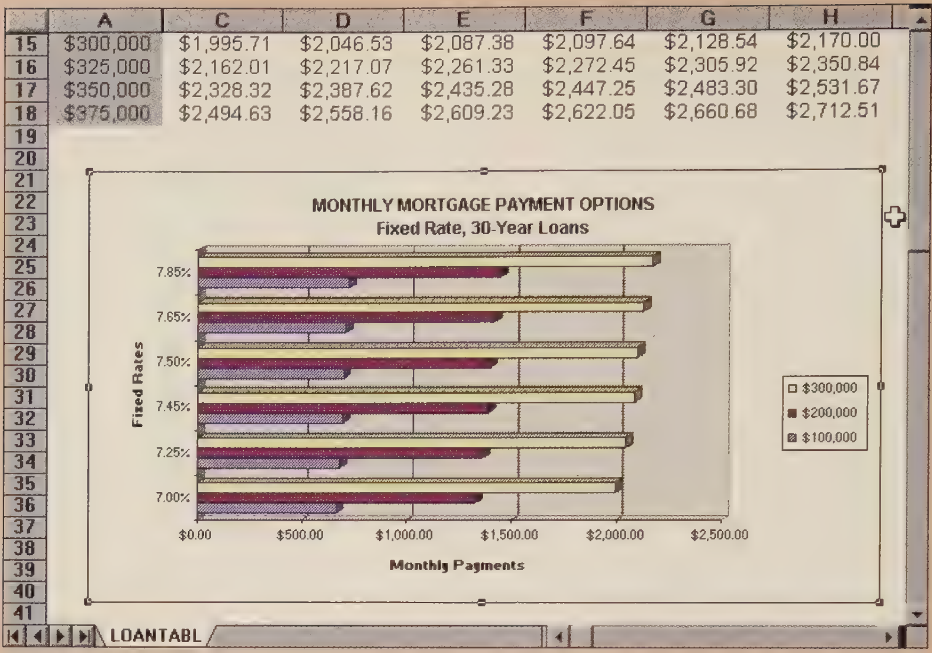
a. Open the file LOANTABL.XLS.

b. Create an embedded bar chart that represents monthly mortgage payments on loans of $100,000, $200,000, and $300,000 for each rate of interest, as shown in Figure 5-32. (Hint: You will need to hide rows for the principal amounts between $100,000 and $200,000 and between $200,000 and $300,000.)

c. Be sure to select the Rows radio button for the Data Series in setting. Also, use 1 row for the Category (x) Axis Labels setting and use 2 rows for the Legend Text setting.

FIGURE 5-32

Create this embedded 3-D bar chart for application project 4.



	A	C	D	E	F	G	H
15	$300,000	$1,995.71	$2,046.53	$2,087.38	$2,097.64	$2,128.54	$2,170.00
16	$325,000	$2,162.01	$2,217.07	$2,261.33	$2,272.45	$2,305.92	$2,350.84
17	$350,000	$2,328.32	$2,387.62	$2,435.28	$2,447.25	$2,483.30	$2,531.67
18	$375,000	$2,494.63	$2,558.16	$2,609.23	$2,622.05	$2,660.68	$2,712.51

d. Enter the chart's titles, x-axis, and y-axis title, as shown in the figure.

e. Save the workbook file as LOANTBL2.XLS.

f. Apply the bold attribute and light background shading to the data in the rows that store the principal amounts represented in the chart.

g. The range should be big enough so that the chart and the table fit on a single page. Format the chart object with an outline and drop shadow.

h. Print the entire document, and save the current version of the worksheet file.

i. Exit the Excel program.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
DATA MENU COMMANDS			
Change cell Reference		F4	
Filter records with advanced filter	Data, Filter, Advanced Filter	Alt+d, f, a	
Filter records with AutoFilter	Data, Filter, AutoFilter	Alt+d, f, f	
Find records	Data, Form	Alt+d, o	
Sort records	Data, Sort	Alt+d, s	AZ↓ ZA↓
EDIT MENU COMMANDS			
Move sheet	Edit, Move Or Copy Sheet	Alt+e, m	
Clear range of data and/or formats	Edit, Clear, All; or Edit, Clear, Formats; or Edit, Clear, Contents	Alt+e, c, (a, f, *or* c) Del (contents only)	
Copy data	Edit, Copy	Alt+e, c *or* Ctrl+c	⎘
Copy formatting	Edit, Copy Edit, Paste Special	Alt+e, c Alt+e, s	🖌
Move range	Edit, Cut	Alt+e, t *or* Ctrl+x and	✂
	Edit, Paste	Alt+e, p, *or* Ctrl+v	📋
Delete rows and columns	Edit, Delete	Alt+e, d, r (*or* c)	
Find data	Edit, Find	Alt+e, f *or* Ctrl+f	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Move/copy worksheet to file	Edit, Move Or Copy Sheet	Alt+e, m	
Paste (copied) data	Edit, Paste	Alt+e, p *or* Ctrl+v	📋
Replace data	Edit, Replace	Alt+e, e *or* Ctrl+h	
Reverse an operation	Edit, Undo	Alt+e, u *or* Ctrl+z	↶
FILE MENU COMMANDS			
Close workbook file	File, Close	Alt+f, c	
Exit Excel	File, Exit	Alt+f, x	
Open file	File, Open	Alt+f, o *or* Ctrl+o	📂
Set up pages for printing	File, Page Setup	Alt+f, u	
Preview worksheet pages	File, Print Preview	Alt+f, v	🔍
Print selected data	File, Print	Alt+f, p	🖶
Save (update) workbook file	File, Save	Alt+f, s	💾
Save workbook file (first time)	File, Save As	Alt+f, a	
Save data to new file	File, Save As	Alt+f, a	
FORMAT MENU COMMANDS			
Apply autoformat	Format, AutoFormat	Alt+o, a	$
Format value range	Format, Cells	Alt+o, e *or* Ctrl+l	% , +.0 .00 .00 +.0
Format label range	Format, Cells, Alignment	Alt+o, e	≡ ≡ ≡

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Center label text	Format, Cells, Alignment	Alt+o, e, a	
Apply borders	Format, Cells, Borders	Alt+o, e, b	
Apply font	Format, Cells, Font	Alt+o, e, f	
Apply font attribute	Format, Cells, Font	Alt+o, e, f	**B** *I* U
Apply font color	Format, Cells, Font	Alt+o, e, f	
Apply date or time formats	Format, Cells, Number (tab)	Alt+o, e	
Apply Shading	Format, Cells, Patterns	Alt+o, e, p	
Adjust column width automatically	Format, Column, AutoFit Selection	Alt+o, c, a	
Hide columns	Format, Column, Hide	Alt+o, c, h	
Change standard column width	Format, Column, Standard Width	Alt+o, c, s	
Adjust column width	Format, Column Width	Alt+o, c, w	
Apply shadow effect	Format, Object, Patterns	Alt+o, e, p	
Name sheet	Format, Sheet, Rename	Alt+o, h, r	
Rename sheet	Format, Sheet, Rename	Alt+o, h, r	

HELP MENU COMMANDS

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
Display Help Contents	Help, Contents	Alt+h, c *or* F1	
Display a help demonstration screen	Help, Examples and Help, Demos	Alt+h, e	
Display Help Index	Help, Index	Alt+h, i	
Display context-specific help information	Select Help button, then select button, command, or screen element		?

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
INSERT MENU COMMANDS			
Insert page break	Insert, Page Break	Alt+i, b	
Insert chart sheet	Insert, Chart, As New Sheet	Alt+i, h, a	📊
Insert embedded chart	Insert, Chart, On This Sheet	Alt+i, h, o	
Excel's Function Wizard	Insert, Function	Alt+i, f	fx
Create name with label	Insert, Name Create	Alt+i, n, c	
Define range name	Insert, Name Define	Alt+i, n, d *or* Ctrl+F3	
Insert range name	Insert, Name Paste	Alt+i, n, p	
Add cell note	Insert, Note	Alt+i, n	
Insert rows and columns	Insert, Rows and Insert, Columns	Alt+i, r, and Alt+i, c	
TOOLS MENU COMMANDS			
Use Goal Seek tool	Tools, Goal Seek	Alt+t, g	
Change program options	Tools, Options	Alt+t, o	
Set working directory	Tools, Options, General	Alt+t, o, g Alt+d	
Use Solver add-in program	Tools, Solver	Alt+t, v	
Select scenario	Tools, Scenario	Alt+t, c	
VIEW MENU COMMANDS			
Toggle display of Formula bar	View, Formula Bar	Alt+v, f	
Toggle full screen mode	View, Full Screen	Alt+v, u	
Toggle display of Status bar	View, Status Bar	Alt+v, s	
Toggle display of toolbars	View, Toolbars	Alt+v, t	
Adjust worksheet display size	View, Zoom	Alt+v, z	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	BUTTON
WINDOW MENU COMMANDS			
Freeze Panes	Window, Freeze Panes	Alt+w, f	
Remove split window	Window, Remove Split or Drag window split bar	Alt+w, s	
Split worksheet window	Window, Split or Drag window split bar	Alt+w, s	
Remove frozen panes	Window, Unfreeze Panes	Alt+w, f	
Select another worksheet	*Sheet#* tab	Ctrl+Page Up *or* Ctrl+Page Down	

GLOSSARY

absolute cell reference A cell address that references a cell in a formula and that does not change when the formula is copied to other cells

active cell The cell on which the cell cursor is positioned

add-in program A supplementary program packaged with an applications program that performs a special function or task while the applications program is in operation

AND condition Criteria for querying a database that consists of two conditions, both of which must be met to locate a specific record

argument A cell reference, range reference, formula, or text on which a built-in function operates

ascending sort order The arrangement of records, either alphabetically (A–Z) or numerically (0–9), after a sort operation

attribute A characteristic or style that enhances a typeface, such as bold, italics, and underline

autoformat In Excel for Windows, a named set of formatting characteristics that can be applied to tabled data

automatic recalculation A spreadsheet's ability to recalculate all formulas that reference data in a cell or range automatically as soon as a change to is made to the referenced data

borders Lines of varying thickness (weights) that can be applied to one or more sides of a selected cell, range, or embedded object

budget A worksheet model that is used to store and analyze income and expenses to determine projected net income for an upcoming period

buffer A portion of random-access memory (RAM) that is used as a temporary data storage area during certain operations

cell The basic unit of a spreadsheet, or worksheet, into which data is entered and stored

cell address The identification of a cell's location, which is made up of the column letter(s) of the column and the row number of the row that intersect to form the cell

cell cursor The device used to select a specific cell in a worksheet so that data can be entered into the cell

cell note A text notation that can be applied to a specific cell

cell reference A cell address in a formula that represents the location of data on which the formula operates

chart A diagram or graphic illustration that uses a variety of symbols to represent worksheet data

chart sheet A separate sheet containing only a chart that inserts in front of the active worksheet, which contains the data represented graphically in the chart

chart subtype A format or set of characteristics that enhances the display of a particular chart type

chart type A set of chart elements that represents data with specific symbols or graphic elements, such as lines, bars, columns, and pies

ChartWizard In Excel for Windows, a tool that allows you to create charts for selected data, using a five-step (dialog box) procedure

column A vertical division in a worksheet that is uniquely identified by a single letter or combination of two letters

condition A criterion for searching a database and selecting records (*see* criterion and criteria)

constraint When using Excel's Solver add-in program, a condition that can be set for certain cells that influences the definition of the problem to which Solver is being applied

context-specific help On-screen help information on the current command or operation being executed

costs In a budget worksheet, the data that represents money spent in the operation of a business or other enterprise (*see* expenses)

criteria Conditions used to search a database and locate specific records that meet those conditions

criteria range A range that is separate from the database range and into which data is entered as criteria for locating specific records

criterion A single item or condition that is used to locate specific records in a database (*see* condition and criteria)

database A file that stores and organizes a related set of information within a specific structure

database range The range in a database worksheet where the header row and database records are stored

data point In a chart, a symbol or shape that represents a specific worksheet value

data series In a chart, a set of symbols or shapes that represents a range or set of worksheet values

date value A value that is an integer (whole number), which represents a consecutive day that has elapsed since January 1, 1900

default file location In an applications program, the disk location for which the program has been set up as part of several automatic, or initial, settings to locate files which are being opened or to place files that are being saved

descending sort order The arrangement of records so they are listed alphabetically in reverse from Z to A and numerically in reverse from largest to smallest (9–0)

dialog box A graphic-user interface (GUI) device that makes one or more options available for selection prior to execution of a command

dynamic link A relationship or condition between two or more items of data, or data in a worksheet that is represented in a chart, in two separate sheets or files, such that any change to data in one sheet or file causes the data in the other to be modified

embedded chart A chart that is inserted in a range within an active worksheet

embedded object A chart, graphic, picture, or any other object that is not text or numbers and that is inserted into a range within an active worksheet

expenses In a budget worksheet, the data that represents money spent in the operation of a business or other enterprise (*see* costs)

exploded pie slice A pie slice (wedge) that is separated from the rest of the pie (disk) to emphasize a specific value

field In a database worksheet, a column that holds a category of data for each record

field name A name for a field (column) in a database range that appears in the header row

filter An operation that isolates or extracts a subset of criteria-matching records from a database range

find An operation in which an application program searches a document or worksheet for a specific string of characters

find-and-replace An operation in which an application program searches a document or worksheet for a specific string of characters and replaces them with another set of characters

font Characters that appear in a specific typeface, size, and attribute or weight

footer Information that prints on the bottom of every page in a printed multi-page worksheet document

formatting toolbar In the Windows environment, the toolbar that appears near the top of the program window and that contains a set of buttons, or icons, that execute commands that apply formatting characteristics to data

formula In a spreadsheet, a mathematical statement or expression that contains any combination of cell references, constants, and operators to perform calculations on worksheet data

formula bar In Excel for Windows, a line near the top of the program window where data being entered into the active cell appears for editing

function In spreadsheet programs, a built-in formula that performs a specific calculation on a specified set of data

function wizard In Excel for Windows, a tool that provides access to and the entry of built-in functions in a worksheet

goal When performing what-if analyses, using Excel's Goal Seek tool, or using Excel's Solver add-in program, the target cell containing a formula that calculates a particular result when other variables referenced by the target cell's formula are changed

gross income In a budget worksheet, the money earned or acquired before expenses are deducted to determine net income (*see also* revenue)

hatch pattern A shading effect that is made up of fine perpendicular or parallel lines

header Information that prints on the top of every page in a printed multi-page worksheet document

header row In a database worksheet, the first row in the database range that stores field names

help On-screen information that provides assistance for using an applications program's commands, features, and operations

horizontal page break In a worksheet, a division that separates pages between the last column that prints on the right edge of one page and the first column that prints on the left edge of the next page

IF function In spreadsheets, a logical built-in function that performs a conditional test and then provides one of two results based on whether the conditional test proves true or false

insertion bar An on-screen element, or symbol, that represents where the next typed character will appear

key field A field in a database on which a sort operation is based, such as sorting records alphabetically based on last names (also called sort keys)

logical formula A formula that performs a test to determine whether a condition is true or false

margins Areas of blank space that border a page, surrounding the information printed on the page

menu bar In GUI environments, the line of menu names that appears near the top of the program window, generally right beneath the window's title bar (*see also* pull-down menus)

mixed cell reference A cell reference in a formula that consists of either a relative column reference and an absolute row reference (D$4) or an absolute column reference and a relative row reference ($D4)—the relative part of the reference changes when the formula is copied to a target cell or cells; the absolute part of the reference, preceded by a dollar sign ($), does not change

mode indicator In spreadsheets, an indicator that tells the user the current status of the program

name box In Excel for Windows, an on-screen location to the left of the Formula bar that displays the active cell's address, the name assigned to an active range, or a drop-down list where range names can be selected and inserted into formulas

net income In a budget worksheet, the projected calculated difference between gross income or revenue and costs or expenses for an upcoming period

numeric keypad The set of number and cursor movement keys on computer keyboards that are separate from the larger set of alphanumeric keys

operator order of precedence The order or method in which mathematical calculations are performed, from left to right, based on the placement of operators in the formula

OR condition Criteria for locating selected records in a database that consists of two conditions, either of which can meet the criteria to locate a specific record

orientation The general layout of objects on a printed page

palette A menu or selection of colors that appears when using any option that includes applying color as a format

pattern A color or shading effect that can be applied to selected ranges or other objects

plot area A rectangular area on a chart that dictates the general location of the graphic symbols that represent worksheet data

point A unit of measure for typefaces that is equal to $\frac{1}{72}$ of an inch

pointing In spreadsheets, a method for building formulas in which the user "points to" or selects cells or ranges to insert their references in the formulas

Print Preview A window that displays on screen a full-page facsimile of the printed page

print titles A range of column heading labels and/or row heading labels that print on every page of a multi-page worksheet

pull-down menus In Windows applications, the menus that appear to drop down when selected, or pull down when dragged, from the menu bar using a mouse (*see also* Menu bar)

query An operation in which a database is searched for specific records based on criteria

Random-access memory (RAM) Computer's memory which holds data temporarily until you save it to disk

range In spreadsheets, a rectangular group of contiguous cells, or a single cell, that can be specified, by its address, for commands and operations

range address The location identification for a range of cells that consists of two diagonally opposite corner cells—usually the upper-left cell address and the lower-right cell address—separated by a symbol, such as a colon (:)

range name A descriptive name assigned to a range of cells containing data that helps the user to readily identify, or understand the significance of, the data

record In a database worksheet, a single row that contains a set of information for one unit or individual

relational operators Operators used in formulas that allow two or more data to be compared quantitatively, and which can be used in statements entered as criteria for querying a database range

relative cell reference A cell address in a formula that represents a value on which the formula operates and that changes when the formula is copied to other cells so as to maintain the same relative location with the cell containing the formula

revenue In a budget worksheet, the projected earnings received by a business or other enterprise before costs or expenses are subtracted to determine projected net income (*see also* gross income)

rows In a worksheet, horizontal divisions or segments that are identified by consecutive numbers from the top down

scenario In Excel for Windows, a set of input values, or variables, that influence a worksheet's formulas to achieve a specific result, or goal

scroll bars In a Windows environment, the horizontal and vertical strips that appear, respectively, at the bottom and right sides of the window so that the mouse can be used to display other areas of the document or worksheet

scrolling The on-screen action, or movement, of the document or worksheet, in relation to its window, as the mouse or keys are used to bring other areas of the document into view

shading The color or pattern that can be applied to ranges or other objects

shadow A border effect that combines thick and thin lines to give the appearance of a shadow being cast from the outlined range or object

sheet In Excel for Windows, another name for a worksheet in a workbook file, which can store multiple sheets (see also worksheet)

sheet reference The name for a specific sheet, or worksheet, in a workbook file, which can be used in formulas to identify data in other worksheets

sheet tabs In Excel for Windows, graphic index-like tabs that appear on a strip near the bottom of the program window and that can be selected with the mouse to activate another sheet

Solver A problem-solving add-in program that is included in the Excel for Windows spreadsheet and that can be applied to analyze relationships among particular worksheet data items

sort An operation in which database records are organized or arranged in a particular order, based on one or more fields

source range When copying or moving data, the original data that is being copied or moved (*see also* target range)

spreadsheet An electronic tool, or applications program, that is used to store, manage, and manipulate numeric information in worksheets, which have a matrix or table structure

standard toolbar In Windows applications, a strip of buttons, or icons, that can be used to carry out a number of operations without selecting commands from menus

status bar A line or area at the bottom of most program applications windows that displays various status indicators, program messages, or error messages

string Any set of contiguous characters

tabs In the Microsoft Windows environment, graphic index-like devices that appear near the tops of certain dialog boxes and that allow a user to activate (display) alternate sets of options (*see also* sheet tabs)

table An arrangement of data in column-and-row format

target range When copying or moving data, the location or destination where the data being copied or moved is placed

template In spreadsheet applications, a special file that stores labels (text) and formulas but no data, so it can be used to create other similarly structured files by opening the template, entering data, and saving the file under a different name

time value A decimal value that represents the percentage of a 24-hour period that has elapsed

title bar In Windows applications, the line, or area, at the very top of the window that displays the name of a program, dialog box, or document file and that also may include window control icons

toggle The characteristic for options that can be either in an on or off condition only

truncation In worksheets, the condition in which a label's display in its cell appears shortened or cut off because the column's width is too narrow to display the label fully and the cell to the right contains data

typeface A particular family or set of characters that are distinguished from other typefaces by stylistic qualities

value formats Formatting characteristics that can be applied to cells so that values (numbers) appear with other characters, such as dollar signs, comma separators, decimal points, and decimal place digits

vertical page break In worksheets, a division between two rows that marks the separation for the last row appearing at the bottom of one page and the top row appearing at the top of the next page

what-if analysis In spreadsheets, an operation that exploits the spreadsheet's ability to perform automatic recalculation so that different assumptions can be tested on worksheet data by substituting variables referenced in formulas to obtain different calculated results

workbook files In Excel for Windows, user-created files that store data in worksheets and that can contain multiple worksheets

working directory The current, or active, disk location—including any directories or subdirectories—that the program uses automatically for accessing data stored in files

worksheet The document a user creates and uses in spreadsheet software to store, manage, and manipulate numeric, or financial, information

worksheet area The entire matrix of cells that is available for entering and editing data, including portions not visible in the screen's worksheet window

worksheet frame The horizontal and vertical strips, or areas, that border the worksheet window's top and left sides, respectively, and that display the column letters (or numbers) and row numbers that identify the worksheet area's columns and rows, respectively

worksheet model A customized structure for worksheet data that allows a user to analyze specific situations represented by the worksheet's data

worksheet window The on-screen area that displays a very small portion of the entire worksheet area that is available for data entry

WYSIWYG An acronym for "What You See Is What You Get," which represents a characteristic of graphic-user interface (GUI) environments in which the image of the document on screen very closely resembles the way the image will look on the printed page

INDEX

- absolute cell references, 63–65
- Accounting value formats, 70
- active cell, 10
- Add Constraint dialog box (Solver add-in), 117
- addition
  - with AutoSum button, 55, 56–57
  - with plus sign (+) operator, 21
  - with SUM function, 55–57
- aligning. *See* formatting
- Alignment command (Format/Cells menu), 79–80
- Alt+ key combinations
  - Alt+Page Up/Page Down keys for right- or leftward screen movement, 12
  - for exiting Excel, 38
  - for file handling, 38
  - for getting help, 38
  - for setting working directory, 38
- Alternate Startup File Location, 140
- angle brackets (<>) as relational operators, 102
- AP1_1STW.XLS file, 85, 133
- AP1_2NIS.XLS file, 86
- AP1_3CIR.XLS file, 86
- AP2_4WU.XLS file, 136
- AP3_1STW.XLS file, 169
- AP3_2SIR.XLS file, 169
- AP4_1STW.XLS file, 211
- AP4_2CIR.XLS file, 212
- AP4_4WUW.XLS file, 212
- AP32SMIR.XLS file, 135
- Application Projects, VIII
- area charts, 174
- arguments in functions, 54
- arrow keys, 12, 14
- asterisk (*) as multiplication operator, 21
- attributes of fonts, 194
- AutoFit Selection for automatic column width adjustment, 74
- AutoFormat command (Format menu), 197–200
- AutoFormat dialog box, 197, 198
- automatic recalculation, 112–113, 142
- AutoSum button, 55, 56–57
- AVERAGE function, 98, 100–101
- axes on charts, 175
- Backspace key, 14
- backups' importance, 36
- bar charts, 174
- Backspace key, 14
- Bold button, 194, 202
- borders, 196–197, 202
  - selecting with AutoFormat feature, 199–200
- budgets, 4, 5
- BUDGETS.XLS file, 144, 180
- BUDGT396.XLS file, 36, 46, 95, 111, 115
- BUDTMPLT file, 109
- BUDTMPLT.XLS file, 124
- buffers, 47
- buttons
  - enlarging appearance of, 147
  - resizing with mouse, 148
  - *See also* buttons by name; commands

- Calculation command (Tools/Options menu), 142
- Cancel button, 14, 15
- canceling data entry (Esc key), 14
- Caps Lock key, 15
- caret (^) as exponentiation indicator, 21
- case requirements for function arguments, 54
- CBT (computer-based training), 31
- cell addresses, 9
- cell cursor, 10
  - moving, 11–13, 23
  - moving and accepting data as entered, 16
- cell references, 20
  - absolute, 63–65
  - creating with pointing technique, 21–22
  - editing, 67–68
  - mixed, 65–67
  - relative, 51–52
- cells
  - active, 10
  - described, 9
  - inserting and deleting, 94, 96–97
  - *See also* columns; ranges of cells; rows
- Cells/Alignment commands (Format menu), 79–80
- Cells command (Format menu), 71–72
- Cells command (Insert menu), 94, 96–97
- Cells/Font command (Format menu), 194
- centering labels, 79, 196
- Chart command (Insert menu), 177–178, 185–187
- charts
  - advantages, 173
  - colors and hatch patterns for, 183–184
  - creating column style, 180–182
  - creating embedded, 176–177
  - creating in separate chart sheet, 177
  - creating pie style, 182–187
  - creating with ChartWizard, 177–182, 185–187
  - modifying column style, 190
  - modifying pie style, 187–190
  - printing, 191–194
  - saving display time with placeholders for, 141
  - types and subtypes of, 173–175, 179
- chart sheets, 177
- check boxes, 26
- Clear command (Edit menu), 106
- clearing range contents, 106–107
- Clipboard, 47
- Close command (File menu), 36–37
- closing worksheets, 36–37
- Color command (Tools/Options menu), 143–144
- Color Picker dialog box, 143–144
- colors
  - of gridlines, 141
  - for pie charts, 183
  - for ranges, 202
  - selecting with AutoFormat feature, 199
  - setting defaults for, 143–144
  - for toolbars, 147
- column charts, 174, 180–182, 190
- Column command (Format menu), 73, 184
- Column menu, Standard Width command, 73
- columns
  - deleting, 93–94
  - described, 9
  - inserting, 91–93
  - width adjustments, 73–75, 95–96
  - *See also* cells
- Columns command (Insert menu), 92–93, 95
- command buttons, 26
- commands, 215–219
  - for adding or deleting rows, columns or cells, 129
  - for applying font attributes, 207
  - for centering labels, 207
  - for changing program display options, 166
  - for column width adjustments, 81
  - for Data menu options, 215
  - for Edit menu options, 215–216
  - with ellipses, 26
  - for File menu options, 216–217
  - for finding and/or replacing data, 130
  - for formatting automatically, 207
  - for formatting cell contents, 81
  - for Help menu options, 217
  - for hiding rows or columns, 207
  - for inserting charts, 207
  - for Insert menu options, 218
  - for moving cell cursor, 12
  - for naming ranges with labels, 81
  - for naming worksheets, 81
  - for print setup, 166
  - for range moving or clearing, 129
  - redoing, 48
  - for seeking goals or what-if scenarios, 130
  - selecting from Menu bar, 23–24
  - to select ranges of cells, 34
  - for splitting windows, 166
  - for Tools menu options, 218
  - undoing, 48
  - for View menu options, 218
  - for Window menu options, 219
  - *See also* menus
- commas in numbers, 70–71
- Comma Style button, 71
- computer-based training (CBT), 31
- conditional (logical) operators, 102

- constraints in Solver add-in, 117
- Contents command (Help menu), 28
- context-specific help, 28, 30
- Copy button, 47
- Copy command (Edit menu), 47
- copying
  - data in ranges of cells, 46–51
  - formatting effects, 200–201
  - formulas, 51–53, 68–69
  - functions, 100–101
  - worksheets, 124–125
- costs, 4
- Create command (Insert/Name menu), 59–60
- Create Names dialog box, 59, 60
- Ctrl+ key combinations
  - Ctrl+ arrow keys for cell cursor movement, 12
  - Ctrl+F3 for naming ranges, 57
  - Ctrl+Home key for cell A1, 24, 27
  - Ctrl+Shift+F3 for naming ranges with labels, 59
  - Ctrl+v for pasting from Clipboard, 47
  - Ctrl+z for undoing previous operation, 48
  - for selecting non-adjacent ranges of cells, 75, 77
- Currency Style button, 71
- Currency value formats, 70
- cursor. *See* cell cursor; mouse cursor
- customizing
  - headers and footers, 162, 164
  - windows, 148–150
  - Zoom command percentage, 151
- cut-and-paste operations, 105

- data entry
  - of constants, 63–64
  - of formulas, 21–23
  - labels, 14–18
  - values, 18–19
- Data menu command summary, 215
- data points on charts, 175
- data series on charts, 175, 176
- date insertion in printouts, 162
- Date value formats, 70
- decimal places, 70–71
  - and Increase/Decrease Decimal buttons, 71
- defaults
  - for appearance of program window and item display, 140–141
  - for cell cursor movement, 16
  - for colors, 143–144
  - for display of embedded objects, 141
  - for editing techniques, 141–142
  - for file locations (path), 25
  - for general operation of program, 139–140
  - for margins, 159
  - for recalculation of formulas, 142
  - for Zoom command percentage, 151
- Define command (Insert/Name menu), 57
- Define Name dialog box, 58
- Delete command (Edit menu), 93, 97, 107
- Delete dialog box, 93–94
- deleting
  - cells, 94
  - characters to left with Backspace key, 14
  - columns or rows, 93–94, 97–98
  - range names, 60–61
- Del key for clearing ranges of data, 106
- dialog boxes
  - described, 26
  - *See also* dialog boxes by name
- directories
  - changing when saving files, 25, 27
  - specifying for alternate startup files, 140
- division with slash (/) operator, 21
- doughnut charts, 174
- dragging
  - for adjusting column width, 74
  - for command selection, 24
  - for copying data, 47–48
  - data in ranges of cells, 105
  - for selecting columns or rows, 91
  - to size charts, 178
  - to split worksheets windows, 156
  - toolbars around screen, 148
- drop-down lists, 26
- drop-shadow effects, 204
- dynamic links, 126, 173, 181–182

- Edit command (Tools/Options menu), 141–142
- Edit Directly in Cell option, 142
- edit fields, 26
- editing cell references, 67–68
- Edit menu
  - Clear command, 106
  - command summary for mouse and keyboard, 215–216
  - Copy command, 47
  - Delete command, 93, 97, 107
  - Find command, 110
  - Paste command, 47
  - Paste Special command, 200
  - Redo command, 48
  - Replace command, 110–112
  - Undo command, 48
- ellipses (...), 26, 30
- embedded column charts, 174, 180–182, 190
- embedded objects, 141
  - formatting, 203–205
- End key with arrow keys, 12
- enlarging display with Zoom command, 151
- Enter button, 14
  - to confirm cell entries, 14
- entering. *See* data entry
- Enter key, to confirm cell entries, 14
- equal sign (=)
  - as formula indicator, 21
  - as relational operator, 102
- Esc key, 14
- Excel for Windows
  - described, 3
  - exiting, 37
  - program window, 8–9
  - starting, 6
- Exit command (File menu), 37
- exiting
  - Excel for Windows, 37
  - Help menu, 31
- expenses, 4
- exploded pie slices (from pie charts), 182–183
- exponentiation with caret (^) operator, 21
- extended keyboards, 11
- extensions
  - user-defined, 108
  - .XLS, 27

- F1 key for help, 28, 30
- F4 key for relative to absolute cell reference conversion, 63, 67
- file handling
  - displaying most recently used, 139, 140
  - opening upon startup of Excel, 140
  - renaming, 107
- File menu
  - Close command, 36–37
  - command summary for mouse and keyboard, 216–217
  - Exit command, 37
  - New command, 45
  - Open command, 45
  - Page Setup command, 159, 162
  - Print command, 33, 34–36, 164
  - Print Preview command, 161
  - Save As command, 24–25, 108
  - Save command, 25
- filename extensions. *See* extensions
- files
  - AP1_1STW.XLS, 85, 133
  - AP1_2NIS.XLS, 86
  - AP1_3CIR.XLS, 86
  - AP2_4WU.XLS, 136
  - AP3_1STW.XLS, 169
  - AP3_2SIR.XLS, 169
  - AP4_1STW.XLS, 211
  - AP4_2CIR.XLS, 212
  - AP4_4WUW.XLS, 212
  - AP32SMIR.XLS, 135
  - BUDGETS.XLS, 144, 180
  - BUDGT396, 27
  - BUDGT396.XLS, 36, 46, 95, 111, 115
  - BUDTMPLT, 109
  - BUDTMPLT.XLS, 124
  - 4Q-BUDGET, 128, 144
  - INVREPRT.XLS, 43, 86
  - INVRPRT2.XLS, 87
  - INVRPRT3.XLS, 135, 169
  - INVRPRT5.XLS, 212
  - LOANTABL.XLS, 213
  - LOANTBL2.XLS, 213
  - NETINCM2.XLS, 86
  - NETINCOM.XLS, 42, 86
  - QINRTMPL.XLS, 135
  - SUBSALES.XLS, 41, 85
  - SUBSALS2.XLS, 85, 133
  - SUBSALS3.WK1, 134
  - SUBSALS3.XLS, 169
  - SUBSALS4.XLS, 169
  - SUBSALS5.XLS, 211
  - 3Q-BUDGET, 63, 126
  - WATERTMP.XLS, 136
  - WATERUSE.XLS, 88, 136
  - WATRUSE4.XLS, 213
  - *See also* workbooks; worksheets
- find-and-replace feature, 110–112
- Find command (Edit menu), 110
- Find dialog box, 110
- finding
  - data in worksheets or ranges of cells, 109–110
  - and replacing data, 110–112
- Font command (Format/Cells menu), 194
- fonts, 194–195
  - specifying as default, 140

- Format menu
  - AutoFormat command, 197–200
  - Cells/Alignment command, 79–80
  - Cells command, 71–72
  - Cells/Font command, 194
  - Column command, 73, 184
  - Row command, 184
  - Sheet command, 62–63
- Format Painter button, 200
- formatting
  - with autoformat feature, 197–200
  - with borders and shading, 196–197
  - centering labels, 79, 196
  - with column width adjustments, 73–75, 95–96
  - copying, 200–201
  - data in worksheets, 69
  - embedded objects, 203–205
  - with font selections, 194–195
  - labels, 79–80
  - with margin adjustments, 159–160
  - non-contiguous ranges, 75–77
  - ranges with value formats, 70–73
  - with shadow effects, 203–205
  - with toolbar buttons, 71
- Formatting toolbar, 8, 71
  - converting to dialog box with Title bar, 149
- Formula bar, 8, 9
  - activating, 14
  - deactivating, 141, 145, 146
- formulas
  - with absolute cell references, 63–65
  - automatic recalculation of, 112–113
  - copying, 51–53, 68–69
  - creating, 21–23, 77–78
  - described, 20
  - editing, 67
  - logical, 102
  - with mixed cell references, 65–67
  - pointing technique, 21–22
  - with relative cell references, 51–52
  - *See also* functions
- 4Q-BUDGET file, 128, 144
- Fraction value formats, 70
- Freeze Panes command (Window menu), 153
- freezing labels or worksheet panes, 152–154
- Full Screen command (View menu), 146, 148–149
- Function command (Insert menu), 99
- functions
  - alphabetical list in Excel Help feature, 54
  - automatic recalculation of, 112–113
  - AVERAGE, 98, 100–101
  - copying, 100–101
  - described, 54
  - IF, 102–104
  - PMT, 66
  - SUM, 54–57, 61–62, 68–69
- Function Wizard, 99
- Function Wizard button, 14

- General command (Tools/Options menu), 25, 139–140
- glossary, 220–225
- Goal Seek command (Tools menu), 114–116
- Goal Seek tool, 114–116
- graphics, saving display time with placeholders for, 141
- graphs. *See* charts
- gridlines
  - color settings, 141
  - deactivating display of, 141, 145
  - turning off for printing, 163
- gross income, 4

- hatch patterns for pie charts, 183
- Header dialog box, 160
- headers and footers, 160
  - customizing, 162, 164
- Help index, 29–30
- Help menu
  - command summary for mouse and keyboard, 217
  - Contents command, 28
  - exiting, 31
- Help window, 28–29, 30–31
- hiding
  - changing program settings for, 166
  - columns or rows for charts, 184–185
  - rows or columns for chart creation, 184–185
  - setting program options for, 140–141, 166
  - toolbars, 147
  - zero values, 141
- horizontal page breaks, 161

- icons
  - for Applications, 6, 7
  - for Excel for Windows, 6, 7
- IF function, 102–104
- Increase/Decrease Decimal buttons, 71
- index of help topics, 29–30
- Insert dialog box, 94
- inserting
  - cells, 94
  - columns or rows, 91–93
- insertion bar, 14
- Insert menu
  - Cells command, 94, 96–97
  - Chart command, 177–178, 185–187
  - Columns command, 92–93, 95
  - command summary for mouse and keyboard, 218
  - Function command, 99
  - Name/Create command, 59–60
  - Name/Define commands, 57
  - Page Break command, 161
  - Rows command, 93, 96
- INVREPRT.XLS file, 43, 86
- INVRPRT2.XLS file, 87
- INVRPRT3.XLS file, 135, 169
- INVRPRT5.XLS file, 212
- Italic button, 194

- justifying labels, 79

- keyboards
  - extended, 11
  - numeric keypad, 11
- keyboard shortcuts
  - how to press, 12
  - *See also* commands

- labels
  - aligning, 79–80
  - centering, 196
  - changing font, 195
  - editing, 67
  - entering, 14–18
  - freezing in worksheet panes, 152–154
  - as range names, 59–60
  - titles for multi-page printouts, 160
  - truncation of, 18
- left justification of labels, 79
- line charts, 173–174
- links, dynamic, 126, 173, 181–182
- loan payment options table, 66–67
- LOANTABL.XLS file, 213
- LOANTBL2.XLS file, 213
- logical formulas, 102

- margin adjustments, 159–160
- mathematical operations
  - automatic recalculation, 112–113, 142
  - with Goal Seek tool, 114–116
  - operators for, 21
  - with Solver add-in program, 116–123
  - *See also* formulas
- Menu bar, 8, 23–24
- menus
  - Data, 215
  - Help, 28, 31, 217
  - pull-down, 24
  - View, 146, 147, 148–149, 151, 218
  - Window, 153, 154, 155–158, 219
  - *See also* commands; Edit menu; File menu; Format menu; Insert menu; Tools menu
- Microsoft Excel. *See* Excel for Windows
- Minimize buttons, 8
- minus sign (-)
  - for negative number indication, 21
  - as subtraction operator, 21
- mixed cell references, 65–67
- mode indicator, 11
- mouse commands. *See* commands; dragging
- mouse cursor, 8
  - as arrow, 50
  - as arrow with question mark, 30
  - as charting cursor, 178
  - as double arrowhead, 74
  - as pointing finger, 30, 32
- moving
  - cell cursor, 11–13
  - data in ranges of cells, 104–106
- multiplication with asterisk (*) operator, 21

- Name box, 10, 58
- Name/Create command (Insert menu), 59–60
- Name/Define command (Insert menu), 57
- naming
  - ranges of cells, 57–61
  - workbook files, 27
  - worksheets, 27, 62–63
- NETINCM2.XLS file, 86
- net income, 4
- NETINCOM.XLS file, 42, 86
- New command (File menu), 45
- New File button, 45
- Norton, Peter, VIII
- note indicator, 141
- numbering of columns, rows and cells, 9–10
- Number value formats, 70–71
- numeric keypad, 11
- NUM indicator, 11
- Num Lock key, 11

- objects, embedded, 141, 203–205
- Open command (File menu), 45
- Open dialog box, 46

opening
  existing workbooks, 45
  new workbooks, 45
Open tool, 45
operators' order of precedence, 20–21
Options/Calculation command (Tools menu), 142
Options/Color command (Tools menu), 143–144
Options/Edit command (Tools menu), 141–142
Options/General command (Tools menu), 25, 139–140
Options/View command (Tools menu), 140–141
order of precedence for formula operators, 20–21
orientation of charts, 179

Page Break command (Insert menu), 161
page breaks, 161
Page Setup command (File menu), 159, 162
palettes, 143
parentheses (()) for function arguments, 54
Paste button, 47
Paste command (Edit menu), 47
Paste Special command (Edit menu), 200
pasting operations, 47
path
  changing when saving files, 25, 27
  specifying for alternate startup files, 140
patterns
  for pie charts, 183
  for worksheets, 196–197
Percentage Style button, 71
Percentage value formats, 70
Page Up/Page Down keys, 12
pictures, saving display time with placeholders for, 141
pie charts, 174, 175–176, 182–187
plot area on charts, 175, 176
plus sign (+)
  as addition operator, 21
  as postive number indicator, 21
PMT function, 66
pointing to create cell references, 21–22
point mode, 23
points (as unit of measurement for fonts), 194
pound signs (####) as overflow indicator, 72
precedence for formula operators, 20–21
Print command (File menu), 33, 34–36, 164
Print dialog box, 35
printing
  charts, 191–194
  ranges of cells, 33–36
  worksheets, 164–165, 205–206
Print Preview command (File menu), 161
print titles, 160
Program Manager's main window, 6, 7
Prompt For Summary Info check box, 139–140
pull-down menus, 24

QINRTMPL.XLS file, 135
quotation marks ("") for strings in IF functions, 102

R1C1 reference style option, 139
radar charts, 174
radio buttons, 26
RAM (random-access memory), 23
  buffers in, 47
random-access memory (RAM), 23
range addresses, 10
range names, 57–61
  deleting, 60–61
ranges of cells
  adding up values in, 55
  clearing contents of, 106–107
  column width adjustments on, 74
  copying data in, 46–51
  described, 10
  moving data in, 104–106
  naming, 57–61
  printing, 33–36
  relative references to, 54
  selecting non-adjacent, 75
  source and target for copying, 46
  as tables, 197
  See also charts
"Ready" mode indicator, 11
recalculations, automatic, 112–113, 142
Recently Used File List, 140
Redo command (Edit menu), 48
Reference Style option, 139
relational operators, 102
relative cell references, 51–52
relative range references, 54
Remove Split command (Window menu), 157, 158
renaming files, 107
Replace command (Edit menu), 110–112
Replace dialog box, 110
Restore buttons, 8
revenue, 4
right justification of labels, 79
Row command (Format menu), 184
rows
  deleting, 93–94, 97–98
  described, 9
  inserting, 91–93
  See also cells
Rows command (Insert menu), 93, 96

Save As command (File menu), 24–25, 108
Save command (File menu), 25
saving
  importance of, 36
  workbook files, 23–27
scale on chart axes, 175
scatter (XY) charts, 174
Scenario Manager dialog box, 119
scenarios with Solver add-in, 118
scientific notation with caret (^) operator, 21
Scientific value formats, 70
scroll bars, 11
  deactivating display of, 141
scrolling windows, 11, 152–153
scroll lists, 26
searching. *See* finding
shading effects, 196–197, 202
shadow effects, 203–205
Sheet command (Format menu), 62–63
sheet references, 126
sheets. *See* worksheets
Show Placeholders option, 141
slash (/), as division operator, 21
Solver add-in program
  for adjusting ranges of constants, 120–121, 122–123
  advantages, 116–117
  scenarios, 118
  setup, 117–120, 122
Solver Parameters dialog box, 117, 120
Solver Results dialog box, 118
source ranges, 46
special characters
  allowable in range names, 57
  used in value formats, 70
Split command (Window menu), 155–158
splitting windows, 155–158
spreadsheets, 3–4
Standard toolbar, 8
  converting to dialog box with Title bar, 149
starting
  Excel for Windows, 6
  Windows, 6
statistical functions for averaging, 98
Status bar, 8, 11
  deactivating, 141, 145, 146
strings, 102
  finding and replacing, 109, 110, 111
Student Data Disk, described, VIII, 26
SUBSALES.XLS file, 41, 85
SUBSALS2.XLS file, 85, 133
SUBSALS3.WK1 file, 134
SUBSALS3.XLS file, 169
SUBSALS4.XLS file, 169
SUBSALS5.XLS file, 211
subtraction with minus sign (-) operator, 21
SUM function, 54–57, 61–62, 68–69
Summary Info dialog box, 139–140

tables, 197
Tabs in dialog boxes, 26
target ranges, 46
templates from workbook files, 107–109
text boxes, 26
3Q-BUDGET file, 63, 126
3-D area, column, line, pie or scatter charts, 174, 187–190
Time value formats, 70
Title bar, 8
toggle keys, 11
toolbars
  Formatting, 8, 71, 150
  resizing, 147, 148, 149
  Standard, 8, 150
  toggling display of, 147
Toolbars command (View menu), 147
Toolbars dialog box, 147
Tools menu
  command summary for mouse and keyboard, 218
  Goal Seek command, 114–116
  Options/Calculation command, 142
  Options/Color command, 143–144
  Options/Edit command, 141–142
  Options/General command, 25, 139–140
  Options/View command, 140–141
tooltips, 147
troubleshooting printer problems, 36
TRUE/FALSE tests, 102
truncation, 18
typefaces. *See* fonts

Underline button, 194
Undo button, 48
Undo command (Edit menu), 48
undoing commands, 48
Unfreeze Panes command (Window menu), 154
updating worksheets, 36
uppercase with Caps Lock key, 15, 16
User Name, 140

values
  comparing with relational operators, 102
  entering, 18–19
  formatting, 70–71
variables
  finding with Goal Seek tool, 114–116
  Solver for handling multiple, 116–123
vertical page breaks, 161
View command (Tools/Options menu), 140–141
View menu, 146
  command summary for mouse and keyboard, 218
  Full Screen command, 146, 148–149
  Toolbars command, 147
  Zoom command, 151

WATERTMP.XLS file, 136
WATERUSE.XLS file, 88, 136
WATRUSE4.XLS file, 213
what-if analyses, 113–114
Window menu
  command summary for mouse and keyboard, 219
  Freeze Panes command, 153
  Remove Split command, 157, 158
  Split command, 155–158
  Unfreeze Panes command, 154
windows
  customizing, 148–150
  for Excel main program, 8–9
  freezing labels or worksheet panes, 152–154
  for Program Manager, 6, 7
  scrolling, 11
  setting defaults for appearance of, 140–141, 145, 146
  splitting, 155–158
  starting, 6
  for worksheets, 9
Wizards
  ChartWizard, 177–182
  Function, 99
workbooks
  file storage for, 8
  opening existing, 45
  opening new, 45
  renaming, 107
  saving as templates, 107–109
working directories, 25
worksheet areas, 9, 151–152
worksheet frames, 9
worksheet models, 113
worksheets
  closing, 36–37
  copying, 124–125
  creating, 15–18
  described, 3
  dynamically linking, 126–129
  modifying display space for, 146–150, 151–152
  naming, 27, 62–63
  printing, 164–165, 205–206
  reducing display space for, 151–152
  saving, 23–27
  scrolling, 11
  specifying number as default for workbooks, 140
  splitting into separate windows, 155–158
  updating, 36
  windows for, 9
  See also cells; charts; formatting; templates
WYSIWYG display, 194

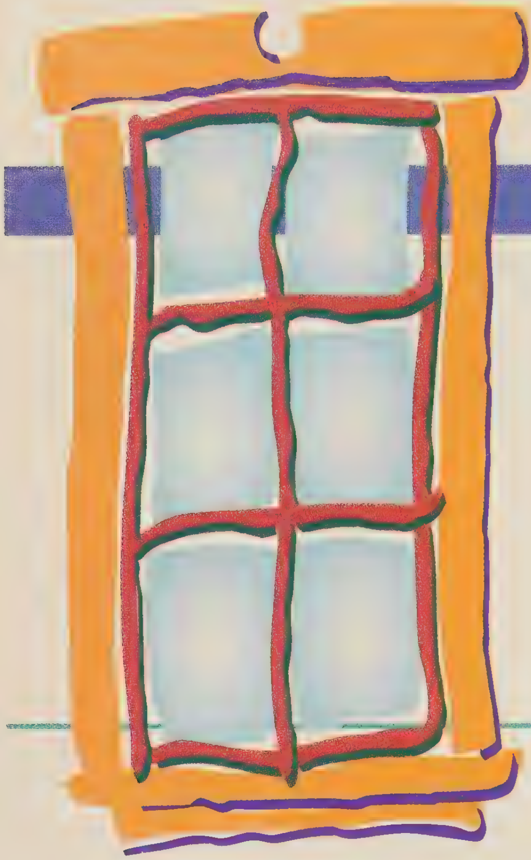
x-axis on charts, 175
.XLS extensions, 27
XY (scatter) charts, 174

y-axis on charts, 175

zero value suppression, 141
Zoom command (View menu), 151
Zoom dialog box, 151

MS OFFICE LESSON 2

INTEGRATING WORD AND EXCEL DATA



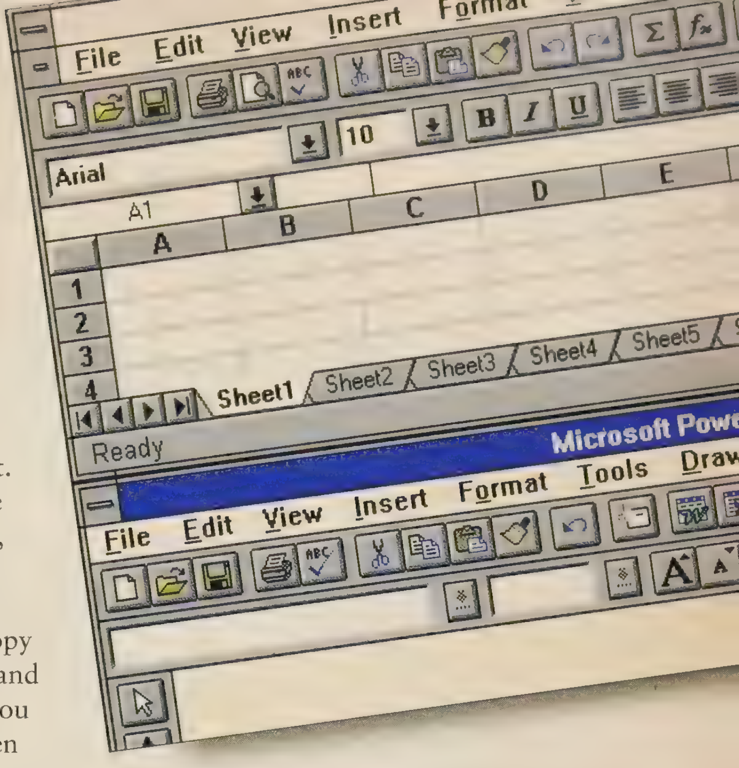
LESSON 2

INTEGRATING WORD AND EXCEL DATA

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Explain what multitasking is.*
- *Copy data from Excel to Word.*
- *Copy data from Word to Excel.*
- *Embed data from Excel into Word.*
- *Link data between Word and Excel.*



One of the major advantages of Microsoft Office is the ability to share information across applications. A table created in Word can be moved to Excel, where it becomes an Excel worksheet. A worksheet in Excel can be copied to a Word document, where it can be edited using Excel tools. In the following pages, you will move and copy information between Word and Excel. Later in this lesson, you will link information between Word and Excel, which allows changes made in one document to be reflected in another document.

CUTTING AND PASTING BETWEEN WORD AND EXCEL

Suppose you work for the Eldenburg Company, a manufacturer of printing presses. Eldenburg is introducing a new printing press, the Mark 14. It is your responsibility to send a letter to one of Eldenburg's distributors, North American Printers, to share information about the Mark 14. The letter must contain some information that you have entered into a spreadsheet.

CUT TEXT FROM WORD

To complete this letter, you will move information back and forth between Word and Excel. The first step is to cut a sentence from a Word document. You have already used the Clipboard to move information within an application. The Clipboard can also be used to move information between applications.

1. Start Word by clicking its button on the Office toolbar.

   If the Office toolbar is not displayed, display it by double-clicking on the Microsoft Office icon in Program Manager.

2. Open the NORTH_1.DOC document on your Lesson Disk.
3. Save the document as MARK14_1.DOC on your Lesson Disk.
4. Scroll through the document.

This letter was written to relay pricing information. One sentence of the letter needs to be placed with the actual pricing information, which is in an Excel workbook. So you will move information from this letter to the Excel workbook.

5. Highlight the last sentence in the second paragraph, which reads "These prices are confidential."

6. Click on the Cut button to remove the sentence from the MARK14_1.DOC document and place it on the Clipboard.

PASTE TEXT INTO EXCEL

The next step is to open the Excel worksheet and paste the text that you just placed on the Clipboard.

Keeping more than one application open at one time is known as multitasking. Multitasking makes integrating data between applications much easier, because you can switch quickly between the applications you need to use.

1. Start Excel by clicking its button on the Office Manager toolbar.

   Excel opens.

2. Open the PRICING.XLS workbook on your Lesson Disk.

3. Save the workbook as MARK14_2.XLS on your Lesson Disk.

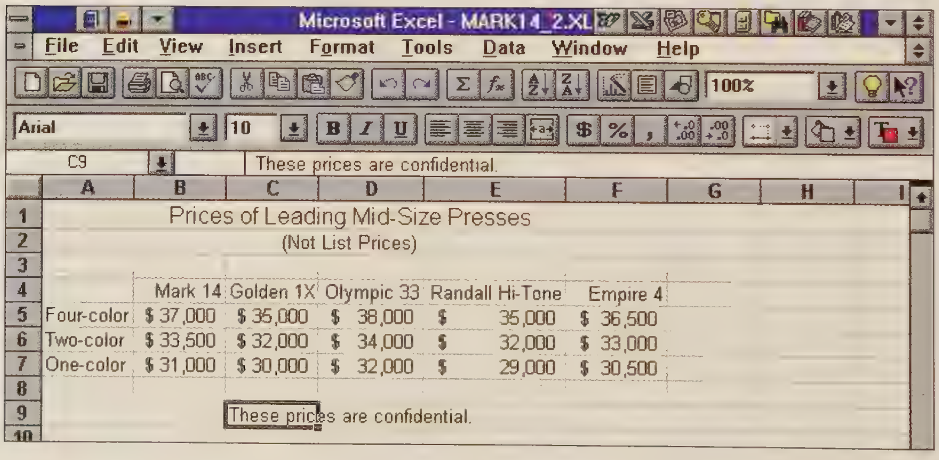
4. Make sure the sheet titled Price is the active sheet.

5. Select cell C9.

6. Click on the Paste button.

   The sentence is pasted at the bottom of the table. Cell C9 was enlarged to hold the text, as shown in Figure 2-1.

FIGURE 2-1
Word text pasted into Excel worksheet.



C9 These prices are confidential.

Prices of Leading Mid-Size Presses

(Not List Prices)

	Mark 14	Golden 1X	Olympic 33	Randall Hi-Tone	Empire 4
Four-color	$ 37,000	$ 35,000	$ 38,000	$ 35,000	$ 36,500
Two-color	$ 33,500	$ 32,000	$ 34,000	$ 32,000	$ 33,000
One-color	$ 31,000	$ 30,000	$ 32,000	$ 29,000	$ 30,500

These prices are confidential.

PASTE DATA INTO WORD

Now you will move the actual pricing information from Excel into Word. If this pricing information were going to be needed at another time, you would choose to copy the information. This information, however, was only created in this form for North American Printers.

1. Select the range A1:F9. This contains all the relevant worksheet information, including the new sentence in cell C9.
2. Click on the Cut button.

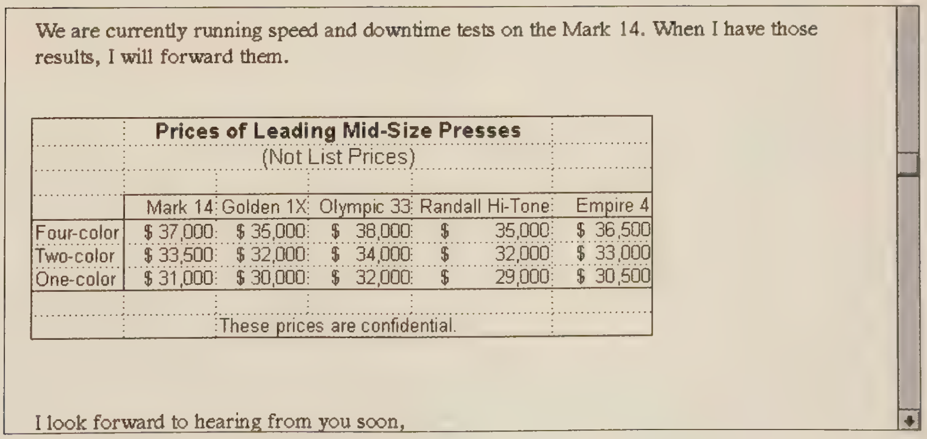
   The highlighted cells are surrounded by a moving border.
3. Switch to Word and the MARK14_1.DOC document by clicking on the Word button on the Office Manager toolbar.

   Notice that there are two paragraph marks before the closing paragraph "I look forward to hearing from you soon." You will be inserting the Excel information between these paragraph marks.

TIP *It is a good idea to insert Excel information between paragraph marks. That way, you have allowed some space before and after the new information. The paragraph marks can always be deleted later.*

4. Click to the left of the second paragraph mark.
5. Click on the Paste button.

   The worksheet information is pasted between the paragraph marks. The worksheet has become a Word table and can be edited using the Word table editing tools.
6. Use the formatting skills you learned in the Word tutorial to format the new table, making it look like the worksheet and adding borders. When you are done, MARK14_1.DOC should look like Figure 2-2.



We are currently running speed and downtime tests on the Mark 14. When I have those results, I will forward them.

	Prices of Leading Mid-Size Presses				
	(Not List Prices)				
	Mark 14	Golden 1X	Olympic 33	Randall Hi-Tone	Empire 4
Four-color	$ 37,000	$ 35,000	$ 38,000	$ 35,000	$ 36,500
Two-color	$ 33,500	$ 32,000	$ 34,000	$ 32,000	$ 33,000
One-color	$ 31,000	$ 30,000	$ 32,000	$ 29,000	$ 30,500
		These prices are confidential.			

I look forward to hearing from you soon,

FIGURE 2-2
Excel data pasted into Word.

7. Save and print the MARK14_1.DOC document.
8. Close the document.

9. Return to the Excel workbook MARK14_2.XLS by clicking on the Excel button on the Office Manager toolbar.

   The information is still highlighted. Excel is protective of worksheet information, so even though you used the Cut button, Excel kept a copy there.

10. Close the document without saving it.

COPYING AN EXCEL CHART INTO A WORD DOCUMENT

Now you will complete a second letter to North American Printers. This letter describes the new printer's speed by incorporating a chart that already exists in Excel.

COPY THE CHART

The first step is to open the Word document, then switch to Excel and copy the chart.

1. Return to Word by clicking on the Word button on the Office toolbar.
2. Open the NORTH_2.DOC file on your Lesson Disk and save it as MARK14_2.DOC on your Lesson Disk.
3. Switch to Excel and reopen the MARK14_2.XLS workbook.
4. Select the Charts worksheet.

   The Charts worksheet contains three charts.

5. Use the scroll bar to display the first chart, titled Average Speed, if it is not already visible.
6. Click the chart.

   Sizing handles appear on the border of the chart.

7. Click the Copy button.

PASTE THE CHART

Now you need to paste the chart into your Word document.

1. Switch to the MARK14_2.DOC document.
2. Click the mouse pointer to the left of the second empty paragraph mark, just before the paragraph that begins "I will forward the downtime summary."
3. Click the Paste button.

   The chart is pasted into the letter.

4. Click on the Print Preview button and look at the letter.

MOVING AND SIZING A CHART IN WORD

The letter now runs to a second page. You want the letter to be no longer than one page. To make it fit, you need to move the chart, just as you would with any graphic in Word.

1. Close Print Preview.
2. Delete the paragraph mark above the chart.

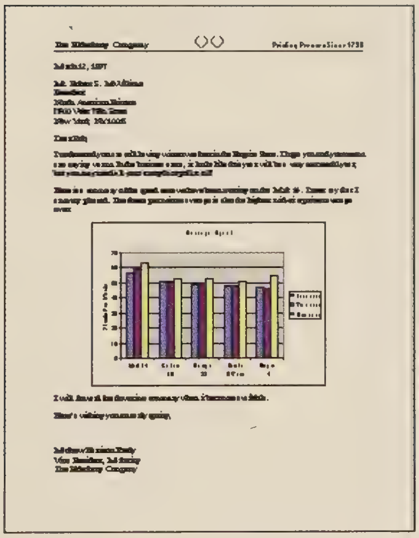
   The letter now fits on one page.
3. Click on the chart.

   The chart's border disappears, but the sizing handles reappear.
4. Click on the Center button on the Formatting toolbar.

   The chart is centered on the page, just as if it were a paragraph.
5. Click on the paragraph above the chart.

   The chart's border returns. In Print Preview, your letter should look like Figure 2-3.

FIGURE 2-3
The finished document in Print Preview.



6. Save the MARK14_2.DOC file.
7. Print the MARK14_2.DOC file and then close it.

EMBEDDING AND LINKING

To let you move information from different applications, Windows uses a technology called **OLE** (pronounced o-LAY), which stands for *Object Linking and Embedding*. So far, you have been creating embedded objects. In a minute, you'll move on to linking objects.

When you move a set of information from one application to another, the set of information is called an **object**. For example, the Excel worksheet you inserted into the MARK14_1.DOC document was an object.

When you use the Cut, Copy, and Paste commands to move an object from one document to another, the object is said to be **embedded** in the second document. An embedded object retains no connection to the document that it came from. The chart you pasted into Word is an embedded object. You can change the worksheet in Excel, but that change will not be reflected in the pasted chart.

However, it is possible to paste an object from one document to another and maintain the object's connection to the source document. This capability is called **linking**, and it can save you lots of time. For example, suppose you send a letter every month to your entire sales staff. The letter is basically the same each month, except it contains the latest sales figures for the company. The quickest way to create this document is to set up a standard letter that contains an object linked to a worksheet.

CREATE A LINKED OBJECT

As you'll see next, the steps to set up a linked object are very similar to those for setting up an embedded object.

1. Open the NORTH_3.DOC file on your Lesson Disk.
2. Save it as MARK14_3.DOC on your Lesson Disk.

   The letter reports quarterly sales figures from North American Printers to The Eldenburg Company's vice president of marketing.

3. Switch to the MARK14_2.XLS file by clicking on the Excel button on the Office Manager toolbar.
4. If necessary, display the Charts worksheet.
5. Click on the third chart, titled Second Quarter Market Share Change.

   The sizing handles appear.

6. Click on the Copy button.
7. Switch back to the MARK14_3.DOC document by clicking the Word button on the Office Manager toolbar.

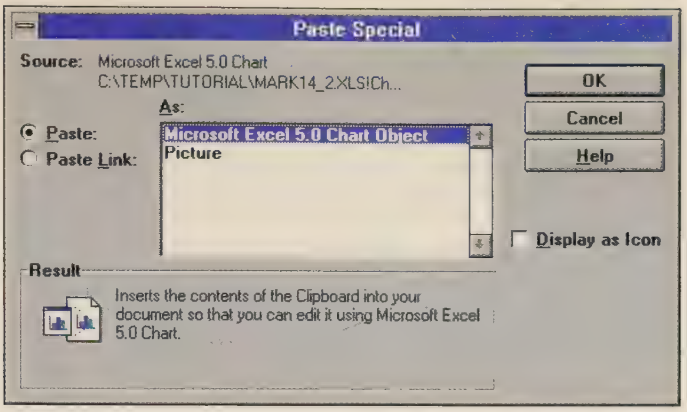
   Up to this point, you have done exactly what you would do if you were simply copying or moving information. How you insert the object determines whether an object is embedded or linked.

8. Click to position the cursor between the two paragraph marks that precede the last paragraph, which begins with the word "Congratulations."
9. Choose the Paste Special command on the Edit menu.

   The Paste Special dialog box opens, as shown in Figure 2-4. Notice that the Microsoft Excel 5.0 Chart Object option has been selected.

FIGURE 2-4

Paste Special dialog box.



Source: Microsoft Excel 5.0 Chart C:\TEMP\TUTORIAL\MARK14_2.XLS!Ch...

As:

● Paste:
○ Paste Link:

Microsoft Excel 5.0 Chart Object
Picture

☐ Display as Icon

Result

Inserts the contents of the Clipboard into your document so that you can edit it using Microsoft Excel 5.0 Chart.

10. Click on the Paste Link option.

    The Result text changes. It now describes a Paste Link. Notice that the Source area of the dialog box lists the location of your file (the location of your file will be different from that shown in Figure 2-4). The ellipses at the end of the file location in Figure 2-4 mean that the location of the file is longer than the dialog box has room for.

11. Click on the OK button.

    The chart is pasted into the letter.

12. Delete the extra paragraph mark above the chart, and center the chart on the page.

    The chart behaves just as the embedded chart did in the earlier exercise.

13. Save the MARK14_3.DOC document.

EDIT LINKED INFORMATION

Now that you have gone to the extra step of linking the chart with Excel, the application that created it, it is time to learn what the benefits of linking really are.

1. Double-click on the chart you linked in the MARK14_3.DOC document.

   After a moment, the MARK14_2.XLS workbook appears, with the Charts worksheet displayed.

   You will update the linked chart by updating the worksheet that it is based on.

2. Select the Sales sheet tab.

   The Sales worksheet appears. The Second Quarter Market Share Change information appears.

3. Change the chart titles from Second Quarter to Third Quarter.

4. Change the chart values to reflect the following market share figures:

	MARK 14	GOLDEN 1X	OLYMPIC 33	RANDALL HI-TONE	EMPIRE 4
East Coast	3	0	–2	3	3
East	3	1	1	2	–1
Midwest	3	–1	0	–1	0
West	1	1	1	1	3
West Coast	2	0	–2	1	2

5. When the changes have been made to this worksheet, display the Charts worksheet.

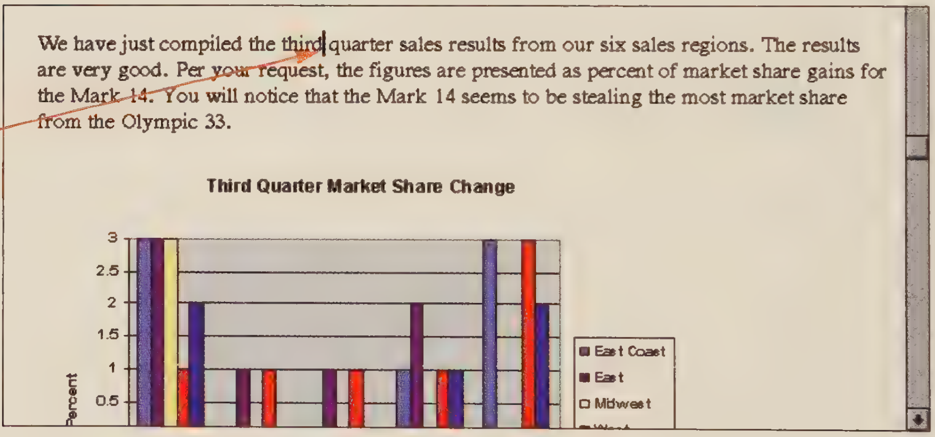
   The Second Quarter Market Share Change chart is displayed. The chart reflects the new values entered in the worksheet.

6. Double-click on the chart to edit it.
7. Select the chart title and change Second Quarter to Third Quarter.
8. Click on the Charts worksheet to deselect the chart.
9. Switch to the MARK14_3.DOC file by clicking on the Word button on the Office Manager toolbar.

   Notice that the chart reflects the changes made to the worksheet and chart in the workbook—even the chart title is changed.

10. In the letter, replace references to Second Quarter with Third Quarter. Your document should look like Figure 2-5.

FIGURE 2-5
The linked chart inside the Word document.



We have just compiled the third quarter sales results from our six sales regions. The results are very good. Per your request, the figures are presented as percent of market share gains for the Mark 14. You will notice that the Mark 14 seems to be stealing the most market share from the Olympic 33.

Make sure the letter refers to the "third quarter."

11. Save the MARK14_3.DOC document.
12. Print the MARK14_3.DOC letter.

CHANGE LINK STATUS

As it turned out, several of the market share figures sent from North American Printers to The Eldenburg Company were inaccurate. You need to stop updating the sales figures until you have a chance to double-check them. The following steps tell you how to do this by changing the status of the link.

1. Click on the chart in the MARK14_3.DOC.
2. Choose the Links command from the Edit menu.

   The Links dialog box opens.

   At the top of the dialog box is a description of the source file, the file the chart is linked to. At the bottom of the dialog box are two radio buttons. One is labeled "Automatic"; the second is labeled "Manual." When a link is established, Automatic is chosen as the default.

3. Select Manual.

   Outwardly no change in the link has occurred. To demonstrate the change, you will have to edit the source file.

4. Click OK.
5. Switch to the MARK14_2.XLS workbook by clicking on the Excel button on the Office Manager toolbar.
6. Display the Sales worksheet.
7. Make the following changes to the worksheet:

   The market share for Olympic 33 for the West Coast Region should be –1. The market share for Randall Hi-Tone for the East Coast should be 1.

8. Switch back to the MARK14_3.DOC by clicking on the Word button on the Office Manager toolbar.

   The changes you made in the Olympic 33 and Randall Hi-Tone columns of the chart are not reflected.

9. Click on the linked chart.
10. Select the Links command from the Edit menu.
11. Click on the Update Now button.

    The dialog box disappears. The chart also disappears for a moment. Then the chart and dialog box appear.

12. Click on the OK button.

    The chart has been updated.

    At any time, you can reverse this process and return the link to automatic status. For now, you can leave it as it is.

13. Save the MARK14_3.DOC file.
14. Print the MARK14_3.DOC file, then close it.
15. Save the MARK14_2.XLS file.
16. Print the Third Quarter Market Share chart from the Charts worksheet of the MARK14_2.XLS workbook, then close the file.

APPLICATION PROJECTS
INTEGRATING WORD AND EXCEL PROJECTS

Projects 1 through 8 result from your job at a television station. Perform the following actions to complete these projects:

1. You work with the director of subscriber support at television station KCOD. As part of its semiannual fundraising drive, public television station KCOD is preparing to send a letter to its supporters. To emphasize the importance of audience contributions, the director of subscriber support wants to include a table in the letter.

   Open the letter, FUNDS.DOC, on your Project Disk and save it as FUNDS_1.DOC on the Project Disk. At this time, ignore the lack of contributor names and addresses; these will be added later with mail merge. Next, open the worksheet where the table information is stored. The worksheet is stored in the CONTRIB.XLS spreadsheet. Save the spreadsheet as CONTRIB1.XLS on the Project Disk. Copy the table in the Source worksheet to the letter. Reformat the table so that it includes a border and is centered on the page. Edit the letter so it will print on one page. Save the completed letter as FUNDS_1.DOC. If your instructor has asked that you print the completed letter, do so.

2. Following a KCOD staff meeting, the director of subscriber support, Julie Wyatt-Morschauser, decides to incorporate a chart rather than a table into the letter.

   Open the FUNDS.DOC letter and save it as FUNDS_2.DOC on the Project Disk. Open the CONTRIB1.XLS file on the Project Disk, and display the Source worksheet. Copy the chart to the letter. Julie does not mind if the letter wraps to a second page, but she asks that any second or third pages in the letter have the station call letters (KCOD) and the page number in a footer. Save the completed letter as FUNDS_2.DOC. If your instructor has asked that you print the completed letter, do so.

3. Julie asks you to complete a letter to Friends of KCOD, a fundraising group composed of station viewers. Address the letter to Mr. Harvey Rottman, President, Friends of KCOD, 2900 Lincoln Avenue, Cody, Wyoming 82414. Although the letter already has a table, Julie prefers that the information in that table be presented in a chart. This fundraising letter must be mailed within the next half hour, so you do not have time to reenter the information into the table.

   Open FRIEND.DOC on your Lesson Disk and save it as FRIEND_1.DOC on your Project Disk. Add Mr. Harvey Rottman's name, title, and address. The CONTRIB1.XLS file has an empty worksheet, titled Yearly, which you should use to create a chart. Cut the table from FRIEND_1.DOC and paste it into the Yearly worksheet, then create a chart using the data. Give the chart the following title: Percent of Viewers Who Contribute to KCOD. The chart should not have a legend. Type **Year** as the title for the X axis, and type **Percent** as the title for the Y axis.

When you are done with the chart, save CONTRIB1.XLS, then copy and paste the chart into FRIEND_1.DOC, exactly where the table was earlier. If the letter wraps to a second page, make sure a footer provides the station's call letters and the letter's page number. Save the completed letter as FRIEND_1.DOC. If your instructor has asked that you print the completed letter, do so. Otherwise, close the document.

4. Before she runs off to a fundraising luncheon, Julie hands you a page of notes and asks you to send a letter of thanks to Mrs. Raquel Ortiz. Mrs. Ortiz has contributed $10,000 toward the repair of the station's damaged satellite facilities.

   In response to a question from Mrs. Ortiz, Julie has asked you to add a chart to the letter. Create the chart in the Repair worksheet of CONTRIB1.XLS. The chart should be based on the current contributions toward facility repair compared with the amount required. So far $127,000 has been given (including Mrs. Ortiz's contribution) toward the total repair cost of $780,000. To simplify the data, enter the totals as $127 and $780 in appropriately-named columns at the top of the worksheet. The chart should be a 3-D bar chart. When the chart is complete, give it the following title: Status of Repair Funds (thousands). The chart should not have a legend nor axis labels. Save CONTRIB1.XLS again.

   Open the FRIEND.DOC file on your Project Disk and save it as THANK_1.DOC on the Project Disk. Mrs. Ortiz's address is 9832 Shamrock Boulevard, Sheridan, Wyoming 82801. Remove any empty lines you do not require. Edit the letter so that it is an appropriate thank-you for Mrs. Ortiz's contribution, removing any inappropriate text material (including the two middle paragraphs and the table). Next, add the chart you created in Excel. If the letter wraps to a second page, make sure a footer provides the station's call letters and the letter's page number. Save the completed letter as THANK_1.DOC. If your instructor has asked that you print the completed letter, do so.

5. Mrs. Ortiz was so pleased with your thank-you letter that she has called Julie with the name of another possible contributor. As a result, Julie has given you the task of corresponding with all special contributors.

   With this new task in mind, use the THANK_1.DOC file as the basis for a letter to Dr. Emory Wong, a businessman in Gillette, Wyoming. Dr. Wong's address is 28 Pine Crest. His ZIP code is 82716. Julie asks that you include a table rather than a chart. Again, time is short, so you will not be able to retype the table that was the basis for the chart in Mrs. Ortiz's letter. Copy the table from the Repair worksheet of CONTRIB1.XLS, and use it to replace the chart in the Word document. Reformat the table so that it has inside and outside borders, and make the text in the table larger than usual. Center the table on the page. Mrs. Ortiz has suggested that you ask Dr. Wong for a contribution of $25,000. Make sure that you mention Mrs. Ortiz's suggestion that you contact Dr. Wong. Also refer to Mrs. Ortiz's gift of $10,000. Include a sentence below the table, noting that the amounts shown in the table are rounded to the nearest thousand.

Save the completed letter as THANK_2.DOC on your Project Disk. If your instructor has asked that you print the completed letter, do so. Close THANK_2.DOC.

6. You suggest to Julie that the sentence explaining the rounding of numbers in the Status of Repair Funds table be included in the Repair worksheet. She agrees. Add the sentence to the bottom of the table in the Repair worksheet. Use the Center Across Selection and the Wrap Text alignment options to ensure that the sentence you have added does not extend beyond the borders of the table. Save the CONTRIB1.XLS spreadsheet. If your instructor has asked that you print the annotated Repair worksheet, do so.

7. Dr. Wong contributes $11,000 to the storm damage repairs. He also gives you the name and address of a friend, Maxine Lee, as a likely contributor. As you are about to edit the table in the Repair worksheet, you realize that linking the chart showing repair contributions and the letter you are sending to possible contributors would save you time.

   Open the THANK_2.DOC letter and save it as THANK_3.DOC on the Project Disk. Link the chart in the Repair worksheet with the THANK_3.DOC letter. Add Dr. Wong's contribution to the table. Add Maxine Lee's address: 3000 Wildflower, Jackson, Wyoming 83001. Do not ask Ms. Lee for a contribution amount, but do mention Dr. Wong's contribution of $11,000. If your instructor has asked that you print the annotated Repair worksheet, do so. Close THANK_3.DOC.

8. Two weeks later, after the Outreach Pledge Drive, you are still sending letters to possible Wyoming contributors. Now, however, your linked chart updates contribution totals automatically. Update the chart in the Repair worksheet to show that recent responses to your letters have raised the contributions total to $211,000. Open the THANK_1.DOC letter and save it on the Project Disk as THANK_4.DOC. Add the following name and address to the letter: Kurt Hargass, 8318 Hennessee Drive, Sheridan, Wyoming 82801. You are thanking Mr. Hargass for a $9,000 contribution. He is very interested in the progress of the fundraising for the satellite repair, so you will want to include the updated chart. When the THANK_4.DOC letter is complete, create a new letter and save it as THANK_5.DOC on the Project Disk. Send this letter to Ms. Rosemary Westrup, 7806 Myers Road, Jackson, Wyoming 83001. She has contributed $5,000. The letter to Ms. Westrup is not only a thank-you note, since it also mentions your interest in her offer to found a KCOD supporters group in Jackson, Wyoming. Link the chart in the Repair worksheet to the letter to her as well. This means that you have the same Excel chart linked to two Word documents. Just as you are about to print the letters, another contribution arrives, bringing the contributions total to $214,000. Update the chart. If your instructor has asked that you print the THANK_4 and THANK_5 letters, do so. Close the letters and the CONTRIB1.XLS workbook.

Projects 9 through 12 result from your job at the National Business History Museum.

9. You are the chief assistant to Leland Grant, director of the National Business History Museum in Alexandria, Virginia. Mr. Grant has asked you to respond to three high school teachers. The teachers have written inquiry letters to the museum, asking if any current exhibits might add to their students' course of study in American history. In your response, you should cite several of the exhibits that touch on American history: the inkwell used by Thomas Jefferson as he rewrote the Declaration of Independence; the pen Grant and Lee used to complete surrender terms at Appomattox Courthouse; and the stapler used to staple together pages of the original draft of the Declaration of War against Germany before World War I. In addition, a key element of your letter is a chart, which you will create, showing students' satisfaction with the museum, based on questionnaires they have filled out. The chart should be broken down by age group. Of the students aged 6 to 9 years, 42 percent were satisfied; of students 10 to 13, 54 percent were satisfied; of students 14 to 18, 61 percent were satisfied. Point out that this compares favorably with any student response to any museum in the country. Create three letters: one is addressed to a teacher of students aged 6 to 9, another to a teacher of students aged 10 to 13, and another to a teacher of students aged 14 to 18. Create the letters first, supplying any information you need. Then link the chart with each letter. Name the spreadsheet MUSEUM.XLS. Name the letters MUSEUM_1.DOC, MUSEUM_2.DOC, and MUSEUM_3.DOC. If your instructor has asked that you print these documents, do so. Close the three letters.

10. The National Business History Museum has just doubled its holdings of antique typewriters. Because he expects an increased number of visitors, Mr. Grant asks you to create a packet of museum information designed to make a visit to the museum as pleasant as possible. The first part of the packet will respond to the one question most frequently asked of museum guides, particularly during weekends, when lines to see exhibits are longer. The question is "How long will it take to see this exhibit?" You will respond to this question by creating a chart in Excel, based on the following information, describing the average time it takes to pass through the museum's four most popular exhibits. Your chart will need to reflect both weekday and weekend averages.

EXHIBIT	WEEKDAY (MINUTES)	WEEKEND (MINUTES)
The First Staplers	21	29
Slide Rules: Gone but Not Forgotten	18	21
Typewriters Then and Now	24	30
Pens: Beauty Within Function	16	21

Create the chart using an empty worksheet in the MUSEUM.XLS spreadsheet. Name the worksheet Times. You may abbreviate the exhibit titles if you need to. You may also have to rearrange information to produce an easy-to-understand chart.

Next, you should create a text document in Word. If necessary, your document may run to two pages. Your text should explain the purpose of the museum, its operating hours, and its address (information you will supply). Display this information attractively. Your finished page (or pages) will be printed in landscape. You will update the chart each week, checking each time for accuracy. So although you will link the chart to the document, you will use a manual—rather than an automatic—link. Save the document as TIMES.DOC on the Project Disk. Save the MUSEUM.XLS spreadsheet. If your instructor has asked that you print this document, do so.

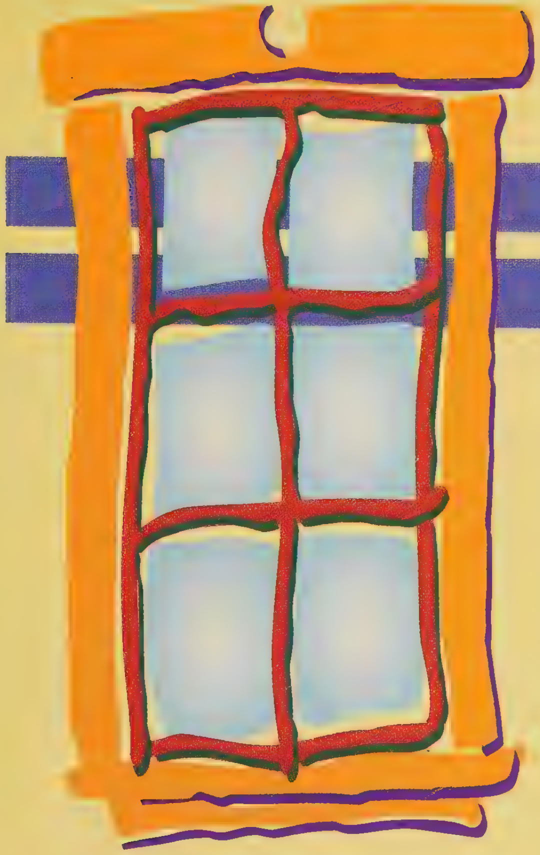
11. Mr. Grant asks that you contact Ruth Bell, the director of visitor services, to obtain information on how many people visit the museum each day, each week, each month, and each year. Mr. Grant wants to add a chart to the TIMES.DOC document that shows the growth in yearly attendance from 1991 through 1995. First, however, you must overcome two problems. One, Ruth Bell's information is maintained in Word. Mr. Grant asks that all charting be done in Excel. Two, Mr. Grant needs the chart in 20 minutes—you do not have time to retype Ruth's material. Ruth's information is contained in the RUTH.DOC file, which is found on your Project Disk.

Open the RUTH.DOC, TIMES.DOC, and MUSEUM.XLS files. Rename a blank worksheet Attend. Then copy the information you need from the RUTH.DOC file, using the Paste Special command. Hint: Do not paste the table as a Word 6.0 Document Object. Instead, choose to insert the table as text. Also, remember to select cells in column A. Save the TIMES.DOC file as TIMES_1.DOC, and then copy the completed chart to the TIMES_1.DOC file, linking the Excel and Word documents. Save the MUSEUM.XLS file under its current name. Close the RUTH.DOC file without saving it. If your instructor has asked that you print the TIMES_1.DOC document, do so.

12. Save the TIMES_1.DOC file as TIMES_2.DOC. Add attendance totals for 1990 to the Attend worksheet (in the MUSEUM.XLS spreadsheet). They are:

1990	760	4,560	19,152	229,824

Use the information in the Attend worksheet to create separate, linked charts for daily, weekly, and monthly attendance figures. If your instructor has asked that you print the TIMES_2.DOC document, do so. Close TIMES_1.DOC and MUSEUM.XLS.



MICROSOFT ACCESS FOR WINDOWS

A TUTORIAL TO ACCOMPANY PETER NORTON'S INTRODUCTION TO COMPUTERS

DEBORAH CRAIG

GLENCOE
MCGRAW-HILL

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Microsoft Access for Windows
A Tutorial to Accompany
Peter Norton's Introduction to Computers

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CONTENTS

Preface, vii

LESSON 1
INTRODUCING ACCESS 2

Objectives, 2
Some Database Basics, 3
Starting Access, 4
Learning Your Way Around Access, 6
    Issuing Commands by Using the Menus, 8
    Contending with Dialog Boxes, 10
    The Toolbars: Command Shortcuts for Mouse Users, 10
    Touring the Database Window, 11
Objects: The Components of Access, 13
    Queries: Extracting the Data You Need, 13
    Forms: Viewing, Entering, and Editing Data More Easily, 13
    Reports and Mailing Labels: Generating Printed Output, 13
    A Note on Macros and Modules, 14
Getting Help When You Need It, 17
    Navigating Through the Help System, 18
    Using the Search Feature, 22
    Getting Help from Cue Cards, 24
Creating Your Own Directory, 27
Quitting Access, 28
Command Summary, 29
Matching Exercise, 30
Multiple-Choice Questions, 30
Short-Answer Questions, 32
Application Projects, 33

LESSON 2
DESIGNING AND CREATING DATABASES 34

Objectives, 34
Planning Ahead, 35
    Determining the Purpose of the Database, 35
    Determining How Many Tables You Need, 36
    Determining How Tables Will Work Together, 37
Creating a Database, 38
Creating Tables, 40
    Creating Tables with the Table Wizard, 40
    Creating Tables in Table Design View, 45
    Saving the Table Design, 53

Modifying the Table Design, 54
Command Summary, 59
Matching Exercise, 60
Multiple-Choice Questions, 60
Short-Answer Questions, 62
Application Projects, 62

LESSON 3
ADDING AND MAINTAINING DATA IN DATASHEET VIEW 64

Objectives, 64
Adding and Editing Data, 65
    Adding Data to Your Table, 66
    Copying Data from Another Table, 70
    Navigating Through the Datasheet, 72
    Selecting Fields, Records, and Columns, 75
    Editing Records, 76
    Searching for Records Based on Their Contents, 80
Customizing the Datasheet, 84
Command Summary, 91
Matching Exercise, 93
Multiple-Choice Questions, 94
Short-Answer Questions, 95
Application Projects, 96

LESSON 4
RETRIEVING THE DATA YOU NEED: SORTING AND SELECTING RECORDS 98

Objectives, 98
Sorting and Selecting Data, 99
Taking Advantage of the Quick Sort Commands, 100
Filtering Your Data, 103
    Setting Up Selection Criteria, 107
Designing Basic Queries, 112
    Setting Up a Query, 113
Querying Multiple Tables, 118
Command Summary, 123
Matching Exercise, 124
Multiple-Choice Questions, 124
Short-Answer Questions, 126
Application Projects, 127

LESSON 5
VIEWING, ENTERING, AND EDITING DATA WITH FORMS 128

Objectives, 128
When and Why to Use Forms, 129
Creating an AutoForm, 130

Using the FormWizards, 133
Creating Tabular Forms, 137
Creating Graph Forms, 140
Adding and Editing Data by Using Forms, 143
Sorting and Selecting Data with Forms, 147
Previewing and Printing Forms, 149
Command Summary, 151
Matching Exercise, 152
Multiple-Choice Questions, 152
Short-Answer Questions, 154
Application Projects, 155

LESSON 6
GENERATING REPORTS AND MAILING LABELS **156**

Objectives, 156
When and Why to Use Reports, 157
Creating an AutoReport, 157
Using the Report Wizards, 160
Creating Tabular Reports, 165
Creating Groups/Totals Reports, 168
Creating a Summary Report, 174
Generating Mailing Labels, 176
Previewing and Printing Reports and Mailing Labels, 181
Command Summary, 182
Matching Exercise, 183
Multiple-Choice Questions, 184
Short-Answer Questions, 186
Application Projects, 186

LESSON 7
ADVANCED TOPICS **188**

Objectives, 188
Modifying Forms and Reports in Design View, 189
    Getting Your Bearings in Design View, 190
    Modifying Forms in Design View, 192
    Modifying Reports in Design View, 197
Working with Multiple Tables, 200
    Identifying Relationships Between Tables, 201
    Referential Integrity, 202
    Establishing Relationships Between Tables, 203
    Creating a Main/Subform, 208
Command Summary, 211
Matching Exercise, 212
Multiple-Choice Questions, 212
Short-Answer Questions, 214
Application Projects, 215

COMMAND SUMMARY 216

GLOSSARY 223

INDEX 228

PREFACE

This *Microsoft Access for Windows Tutorial* is one of the instructional tools that complement *Peter Norton's Introduction to Computers*. Glencoe and Peter Norton have teamed up to provide a new approach to computer education, one not reflected in traditional computer textbooks. The text and its ancillary materials are grounded in the philosophy that knowledgeable, empowered end users will provide the gains in productivity that both businesses and individuals need in the 1990s and beyond. Mere button pushing is not enough; in order to handle increasingly complex computer tasks, both in the workplace and in the home, computer users must understand the concepts behind their computer hardware and software.

STRUCTURE AND FORMAT OF THE MICROSOFT ACCESS FOR WINDOWS TUTORIAL

This book exposes you to a range of functions and techniques. You will be given the opportunity to perform these functions several different ways. You will see that the *Microsoft Access for Windows Tutorial* can adapt to the way you want to work, rather than your adapting to it. Because Microsoft Access for Windows is such a rich program, practicing new functions and techniques is an important part of your work. To help you practice, each lesson includes the following:

- *Explanations of important concepts.* Each section of each lesson begins with a quick explanation of the concept or software feature being covered. The explanations help you understand "the big picture" as you learn each new facet of the program.

- *New terms in boldface.* An important part of learning about computers is learning the terminology. Each new term in the text is set in **boldface** and defined the first time that it is used. As you encounter these words, read their definitions carefully. If you encounter the same word later and have forgotten its meaning, you can look it up in the Glossary at the back of the book.

- *Step-by-step instructions.* Because most students learn best by doing, each explanation is followed by a concise set of steps, which you complete at the computer. As you perform the steps, you will be creating and modifying real Microsoft Access for Windows documents.

- *Many illustrations.* As you work through the tutorial, you will find many figures that help you stay on track. The figures are used to point out features on the screen and illustrate what your screen should look like after important steps are completed.

- *Command summaries*. At the end of each lesson, there is a Command Summary that reviews both mouse and keyboard techniques for completing each task covered in the lesson. Where toolbar buttons are available, they are also included in the Command Summary.
- *Review exercises*. Following the Command Summary, you will find three types of objective questions: a matching exercise, multiple-choice questions, and short-answer questions. Completing these exercises will help you make sure that you have learned all the concepts and skills that have been covered in the lesson.
- *Application projects*. The last element in each lesson is a set of Application Projects that can give you extra hands-on practice using your problem-solving skills and the techniques you have learned in the lesson to create or modify real Microsoft Access for Windows documents.
- *Command Summary, Glossary and Index*. At the back of the book, there are a Command Summary, Glossary and an Index. Use the Glossary to look up terms that you don't understand and the Index to find specific information in the book.
- *Student Data Disk*. Attached to the inside back cover of this book you will find a floppy disk called the Student Data Disk. This disk contains Microsoft Access for Windows files that you will use to complete the step-by-step and hands-on exercises in the book. You should make a copy of this disk immediately.

After you complete this book, you will have the skills necessary to create, process, and present information in a variety of ways using Access.

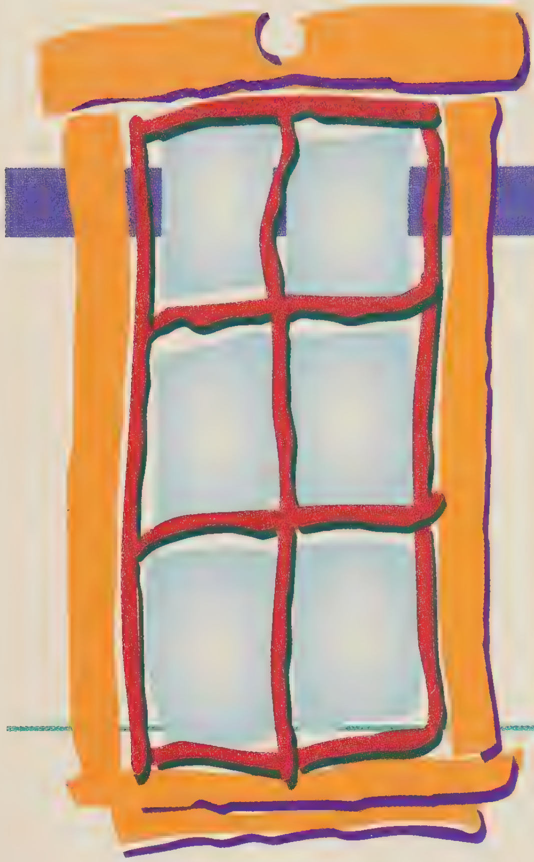
ABOUT PETER NORTON

Peter Norton is a pioneering software developer and author. Norton's *Desktop for Windows*, *Utilities*, *Backup*, *AntiVirus*, and other utility programs are installed on millions of PCs worldwide. His *Inside the IBM PC* and *DOS Guide* have helped millions of people understand computers from the inside out.

Glencoe has teamed up with this trusted name in computers to help you better understand the role computers play in your life. You may use this resource as a textbook now and a reference book later as you begin your productive use of computers in your chosen profession.

REVIEWER

Many thanks are due to Mark Hall, Community College of Spokane, who reviewed the manuscript and gave advice on how to improve the book.



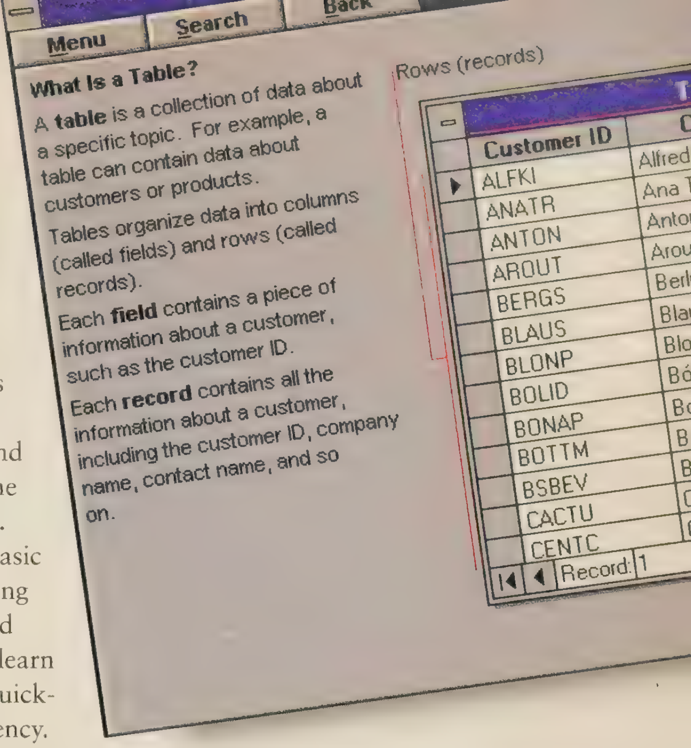
LESSON 1

INTRODUCING ACCESS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Understand what databases are for and some basics about how they work.*
- *Start the Access program.*
- *Find your way around Access.*
- *Identify the basic components of an Access database.*
- *Get online help from Access when you need it.*
- *Create a working directory.*
- *Quit Access when you're done for the day.*



What Is a Table?

A **table** is a collection of data about a specific topic. For example, a table can contain data about customers or products.

Tables organize data into columns (called fields) and rows (called records).

Each **field** contains a piece of information about a customer, such as the customer ID.

Each **record** contains all the information about a customer, including the customer ID, company name, contact name, and so on.

Customer ID
ALFKI
ANATR
ANTON
AROUT
BERGS
BLAUS
BLONP
BOLID
BONAP
BOTTM
BSBEV
CACTU
CENTC

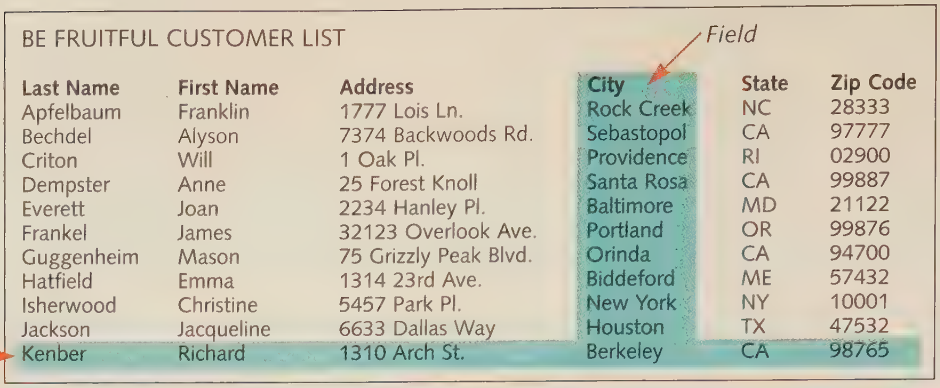
This chapter starts at the very beginning. Among other things, you learn just what a database is and what you can use one for. You also find out some Access fundamentals, such as how to start and leave the program and how to identify and employ the various elements of the screen. You come to understand the basic components of Access, including tables, forms, and reports. And perhaps most important, you learn how to get online help—the quickest route to Access self-sufficiency.

SOME DATABASE BASICS

You may have only a hazy idea, or no idea, what a database is all about. Quite simply, a **database** is an organized collection of information about similar things, such as employees, customers, or inventory items. You probably use some sort of manual database on an almost daily basis, whether it's a phone book, your office Rolodex, or a paper filing system at work. As you begin to work with databases, you may encounter the term **DBMS**, for **database management system**—a system for storing and manipulating the data in a database.

An electronic database program such as Access lets you do many of the same things you do with manual systems—such as storing, retrieving, and manipulating information. What are the advantages of computerizing? It's not difficult to set up a database with Access, but the job requires some advance planning, and transferring your data from a manual to a computerized system can be a significant chore. The real benefits of electronic databases are twofold: One, they can store massive amounts of data in a very small amount of space. And two, they enable you to manipulate your data with ease, sorting it into the desired order (you might want to arrange customers alphabetically by last name, or in order by ZIP code), and extracting just the information you need for the task at hand (you may decide to hunt down all customers whose bills are past due, for example).

As mentioned, a database is not just any old accumulation of data, but a collection of related data stored in a very particular format. (Imagine the difference between a large file drawer haphazardly stuffed with documents in no particular order, and a neat file drawer containing labeled file folders—in alphabetical order—full of documents. Which is more useful?) In Access, data is stored in **tables**, which organize information into a series of **fields** (columns) that contain categories of data, and **records** (rows) that contain the set of fields for one particular entity. The table shown in Figure 1-1 includes fields for customers' last names, first names, addresses,


Field
Record

BE FRUITFUL CUSTOMER LIST

Last Name	First Name	Address	City	State	Zip Code
Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC	28333
Bechdel	Alyson	7374 Backwoods Rd.	Sebastopol	CA	97777
Criton	Will	1 Oak Pl.	Providence	RI	02900
Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887
Everett	Joan	2234 Hanley Pl.	Baltimore	MD	21122
Frankel	James	32123 Overlook Ave.	Portland	OR	99876
Guggenheim	Mason	75 Grizzly Peak Blvd.	Orinda	CA	94700
Hatfield	Emma	1314 23rd Ave.	Biddeford	ME	57432
Isherwood	Christine	5457 Park Pl.	New York	NY	10001
Jackson	Jacqueline	6633 Dallas Way	Houston	TX	47532
Kenber	Richard	1310 Arch St.	Berkeley	CA	98765

FIGURE 1-1
Access tables store information in columns (called fields) and rows (called records).

cities, states, and ZIP codes. In this case, a record consists of all fields that apply to a single customer. For example, the first record includes all the information pertaining to Franklin Apfelbaum, the second record includes all the information about Alyson Bechdel, and so forth. (You'll learn how to design tables in the next lesson, and you'll learn how to enter data into tables in Lesson 3.)

Most Access databases will actually contain one or more tables that you can use together when the need arises. If you have different general categories of information—such as customer addresses and customer orders—you should place them in separate tables. In the course of your work, however, you may require data from multiple tables—you might want to list both customer addresses and orders on an invoice form, for example. You can do this easily in Access, provided that the tables include common fields by which they can be linked. For example, if your customer and order tables both include a field containing customer ID numbers, Access can find each customer's orders by scanning the order table for records with the matching customer ID number. This arrangement saves you from having to store copies of the customer name and address data in several places. It streamlines your database by eliminating the duplication of data, and at the same time reduces the risk of data-entry error (if you enter a name only once, you are less likely to make a mistake). Database programs that let you link, or relate, two tables in this manner are known as **relational databases**. You'll learn more about working with multiple tables in Lessons 2 and 7.

STARTING ACCESS

Before you can begin getting to know the Access database, you need to start the program, which involves just a few easy steps.

START THE ACCESS PROGRAM

In this section, you start Access, bringing it up on the screen so you can acquaint yourself with its features firsthand.

1. Turn on your computer. After a moment, you may see a DOS prompt that looks something like C:\>. (It may also be D:\> or another

variation.) If you instead see the words *Program Manager* at the top of your screen, you can go straight to step 3.

2. At the DOS prompt, type **win** and press Enter. (If you get a message such as "Bad command or file name," try entering **c:\windows\win** or **d:\windows\win** to get into Windows.)

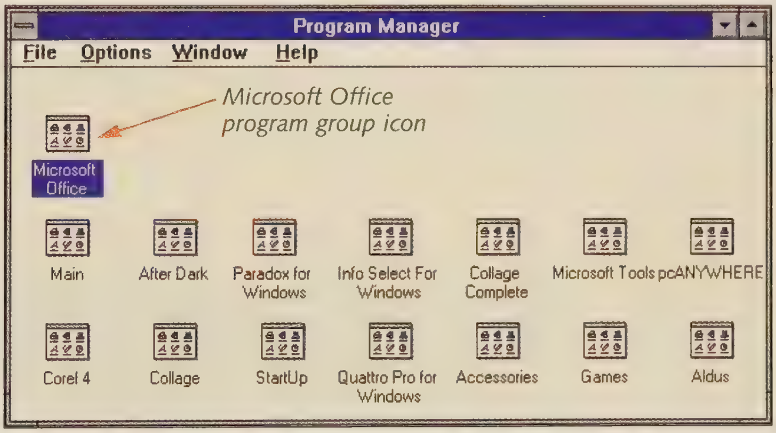
   You should see the Microsoft Windows opening screen and then the Windows Program Manager, which should look something like Figure 1-2. If you also see a window containing a key-shaped Microsoft Access icon, you can skip the next step and go directly to step 4.

3. Double-click on the Microsoft Office program group icon. (Remember, **double-click** means press and quickly release left mouse button twice in rapid succession. If your left mouse button doesn't work, try the right one; sometimes their functions are reversed.) If you don't see this group icon, pull down the Window menu, choose Microsoft Office, and click on OK.

   The Microsoft Office program group window opens, as you can see in Figure 1-3.

NOTE

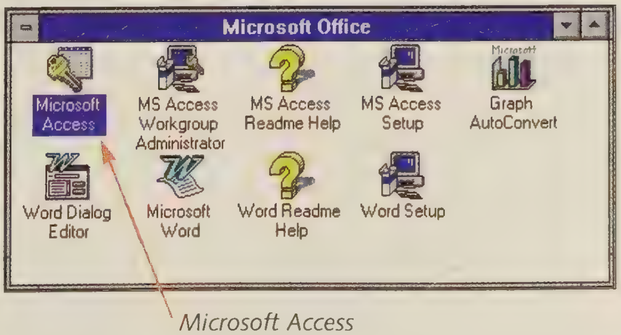
If you can't find the Microsoft Office group window, or if that window doesn't contain the Access icon, instead look for a group window entitled Access.



Microsoft Office program group icon

FIGURE 1-2

Typing win at the DOS prompt opens the Windows Program Manager, from which you can start Access. The Program Manager screen is almost infinitely customizable, so don't worry if yours doesn't resemble this one exactly.



Microsoft Access program icon

FIGURE 1-3

Double-clicking the Microsoft office program group icon opens that program group window, which should contain the Microsoft Access program item. If it doesn't, look for a window entitled Microsoft Access, or consult your instructor or lab assistant.

4. Now double-click on the Microsoft Access program item to start Access.

   You'll see an hourglass icon, then the Microsoft Access identifying screen, and finally the Welcome screen shown in Figure 1-4. This screen enables you to gain easy access to Cue Cards and other help information. (If someone has clicked on the box in the lower-right corner, you'll go directly to the startup window without seeing the Welcome screen.)

5. For the moment, double-click on the Control-menu box (the dash) to the left of the label "MS Access Cue Cards" to remove the Welcome screen. Later in this lesson, you'll learn more about using Cue Cards, a special form of online help to assist you in carrying out procedures.

   You'll see the Microsoft Access startup window, as shown in Figure 1-5.

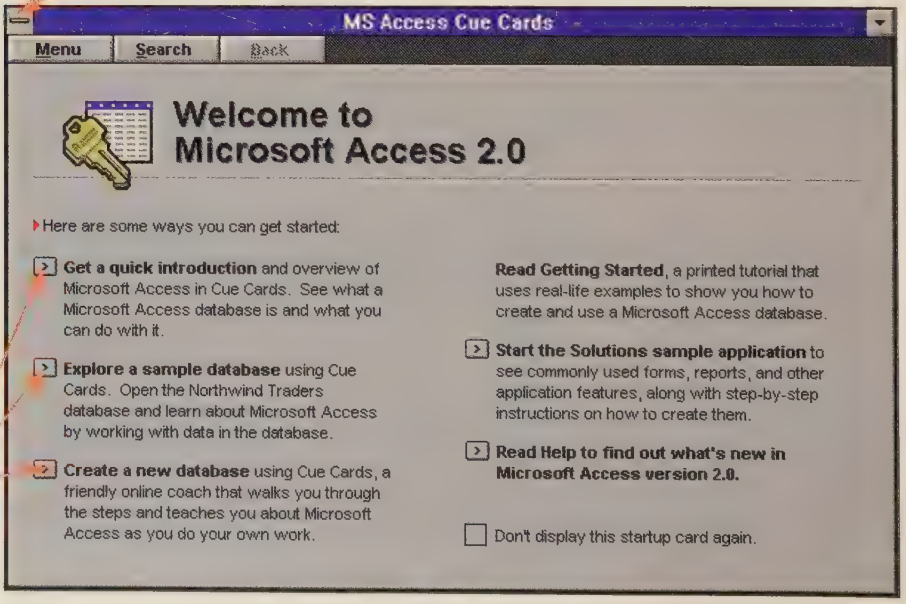
In the startup screen, many features are not yet available because you haven't opened a database. Note, for example, that there are only two options—File and Help—on the Menu bar, and that many of the buttons beneath it are grayed, meaning that they're currently disabled. As you'll soon find out, the available Access options change depending on what you're doing at the moment.

LEARNING YOUR WAY AROUND ACCESS

In this section, you'll learn how to identify and use the elements of the Access screen. If you've worked with any Windows program before, many of these items should be familiar to you. Even if you haven't, the Access interface is easy to understand and easy to use.

FIGURE 1-4

Double-clicking on the Microsoft Access program items starts Access, bringing you to this Welcome screen. You can either close this window to go straight to work in Access, or you can click on one of the buttons to display helpful Cue Cards about a particular topic.



Control-menu box

Click on these buttons to get help or display Cue Cards about a particular topic.

Welcome to Microsoft Access 2.0

Here are some ways you can get started:

Get a quick introduction and overview of Microsoft Access in Cue Cards. See what a Microsoft Access database is and what you can do with it.

Explore a sample database using Cue Cards. Open the Northwind Traders database and learn about Microsoft Access by working with data in the database.

Create a new database using Cue Cards, a friendly online coach that walks you through the steps and teaches you about Microsoft Access as you do your own work.

Read Getting Started, a printed tutorial that uses real-life examples to show you how to create and use a Microsoft Access database.

Start the Solutions sample application to see commonly used forms, reports, and other application features, along with step-by-step instructions on how to create them.

Read Help to find out what's new in Microsoft Access version 2.0.

☐ Don't display this startup card again.

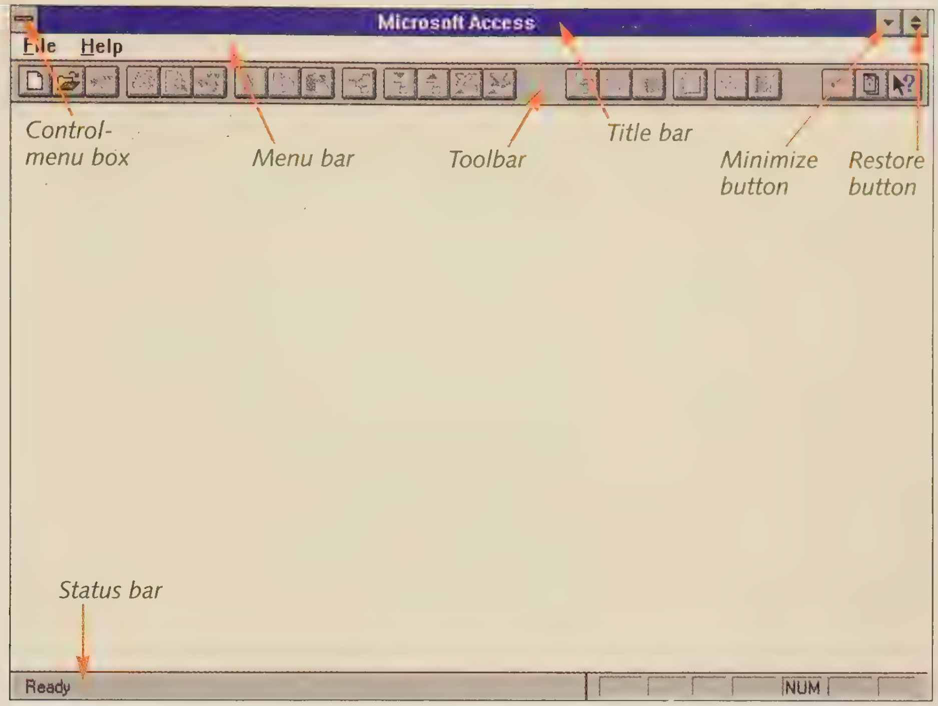


FIGURE 1-5
This Access startup window is where you begin your work in the Access program. In a moment, you'll learn about the Menu bar and toolbar across the top of the screen, as well as a few other essential screen elements, which are labeled here.

The **Title bar** at the top of the screen lists the application name—in this case Microsoft Access. At the left end of the Title bar is the **Control-menu box**; you can double-click on this icon to close Access. (You'll also encounter many smaller windows that include their own Control-menu boxes; double-clicking on a window's Control-menu box closes the window without closing Access.) At the right end of the Title bar is the **Minimize button**, a downward-pointing triangle that lets you reduce the Access window to the size of an icon. To the right of the Minimize button is either the **Maximize button** (an upward-pointing triangle), which enables you to enlarge the window so that it fills the entire screen, or the **Restore button** (two triangles), which lets you return the window to its previous size.

Below the Title bar is the **Menu bar**, a set of options that lead to associated pull-down menus for issuing commands. As mentioned, the available options on the Menu bar change depending on which features you are using. (Menus are covered in more detail in the next section.)

Right underneath the Menu bar is the **toolbar**, a series of buttons that are mouse shortcuts for frequently executed commands. (The toolbar is also covered later in a section of its own.) Like the Menu bar, the toolbar may present different options depending on the context.

Finally, the **Status bar** at the bottom of the screen provides you with a running commentary about the task at hand or the current Access environment. The left side of the Status bar often describes the currently highlighted menu option or toolbar button, or may display some other status message. The right side of the Status bar indicates the state of various toggle keys—such as Ins, Caps Lock, and Num Lock—among other things.

ISSUING COMMANDS BY USING THE MENUS

Menus provide one of main means of issuing commands in Access. There are both keyboard and mouse techniques for issuing menu commands. If you prefer the mouse, you can click on the desired Menu bar option to display the corresponding pull-down menu. Then, to select an option from the menu that appears, simply click on it.

NOTE

As you probably know, **click** *means move your mouse until the mouse pointer is located over the desired option or item, and then press and quickly release the mouse button—usually the left button.*

It's almost as easy to select menu options with the keyboard. To open a menu, press Alt in combination with the underlined letter (also called the **hot key**) in the menu name. For example, you can press Alt+f to pull down the File menu. Once you've opened a menu, you can choose any option within it just by pressing the hot key in the option name. Both techniques for working with menus will seem old hat if you've used any other Windows program.

Even though there are other convenient shortcuts for executing commands, you should have at least a working knowledge of the menu system. For one, it's often more convenient to use keyboard methods of issuing menu commands if you're in the middle of typing in data, and second, it's essential to know these techniques in case your mouse bites the dust in an untimely fashion.

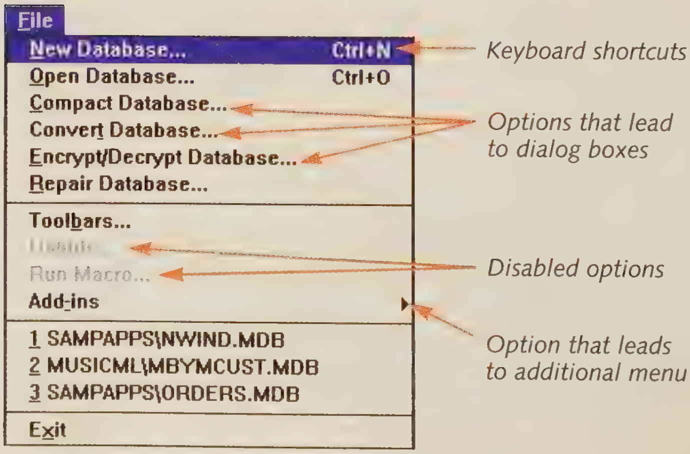
EXPERIMENT WITH THE MENUS

Here you'll experiment with the available menus to get a feel for how they work.

1. Choose File from the Menu bar and take a look at the File menu.

   Access displays the File pull-down menu, as shown in Figure 1-6.

2. Try clicking on the Unhide option. This produces no effect. Menu options that are grayed are not available (disabled) in the current context.



Keyboard shortcuts

Options that lead to dialog boxes

Disabled options

Option that leads to additional menu

FIGURE 1-6 *Whether you use the keyboard or the mouse, choosing File from the Menu bar displays the File pull-down menu shown here.*

3. Glance at the left side of the Status bar.

   Since the New Database option is selected, the Status bar should read "Create a new database."

4. Press ↓ once to highlight the Open Database option.

   Notice that the Status bar display changes to "Open an existing database."

5. Choose the Open Database option.

   Access displays the Open Database dialog box shown in Figure 1-7. Choosing any menu option whose name is followed by an ellipsis (three dots) displays a dialog box asking for further information. You'll learn more about dialog boxes in a moment.

6. For now, press Esc or click on the Cancel button.

   Access removes the dialog box from the screen without carrying out any action, and also closes the File menu.

7. Choose File from the Menu bar again, and then choose the Add-Ins option. (From now on, you will be instructed to choose File, Add-Ins, as an example, when you should pull down a menu and then choose a menu option.) Choosing a menu option that has a small triangle to its right leads to an additional menu.

   You'll see an additional menu, although in this case none of its options are available.

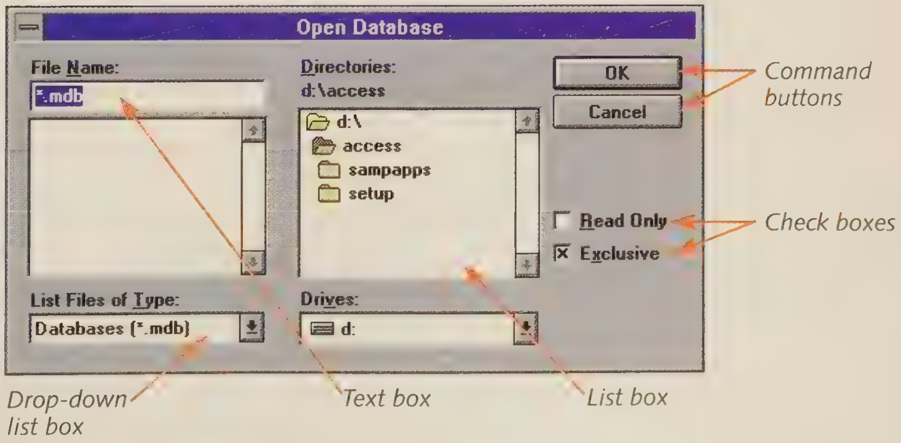
8. Press Esc to return to the File menu and notice the key combinations Ctrl+N and Ctrl+O to the right of the New Database and Open Database options at the top of the menu. These are **keyboard shortcuts**—a quick means of using the keyboard to execute commands without going through the menu system.

9. Press Esc twice or click anywhere outside the File menu.

   Access removes the File menu from view; you can use either of these techniques to leave a menu without going ahead with a command.

FIGURE 1-7

Choosing the Open Database option from the File menu displays the Open Database dialog box shown here. Selecting any menu option whose name is followed by an ellipsis (three dots) leads to a dialog box requesting additional information.


Open Database

File Name: *.mdb

Directories: d:\access

List Files of Type: Databases (*.mdb)

Drives: d:

☐ Read Only

☒ Exclusive

10. Press Ctrl+o; remember, this is the keyboard shortcut for the Open Database command.

    Once again, you'll see the Open Database dialog box that you saw in Figure 1-7. Notice that this time you didn't need to open the File menu or choose an option from within it.

Leave the Open Database dialog box on the screen so you can refer to it while you learn a bit more about dialog boxes in the upcoming section.

CONTENDING WITH DIALOG BOXES

As you learned, menu options followed by ellipses lead to dialog boxes. A **dialog box** is simply a special type of window requesting further information that Access needs before it can proceed with the command. Dialog boxes like the one shown in Figure 1-7 can include any number of common items with which you may already be acquainted. **Check boxes** are options that you can click on once to select (place an *X* in the box) and again to deselect (remove the *X*). Some dialog boxes also include **option buttons** (sometimes called **radio buttons**), which enable you to choose between mutually exclusive options. Selecting one option button generally deselects any other selected option button in the group. (There are no option buttons in Figure 1-7, but you'll encounter them as you work with Access.) **List boxes** present a number of selections from which you can choose. Like list boxes, **drop-down list boxes** supply a set of values from which you can choose; with a drop-down list box, however, you have to click on the downward-pointing arrow on the right side of the list box to reveal the possible choices. **Text boxes** permit you to type in the desired value, instead of choosing it from a predetermined list. Finally, **command buttons** enable you to carry out some sort of action. OK and Cancel are the most prevalent pair of command buttons. Choosing OK tells your program to proceed with the command using the selected dialog box settings, and choosing Cancel tells your program to close the dialog box without implementing any changes. Choose Cancel now to close the Open Database dialog box.

THE TOOLBARS: COMMAND SHORTCUTS FOR MOUSE USERS

Directly underneath the Menu bar is a toolbar, a collection of buttons that function as mouse shortcuts for issuing common commands. Like the available menu options, the available toolbar buttons may change depending on what you're doing at the moment. As you saw in Figure 1-5, most of these buttons are currently grayed, meaning that they are unavailable. Access actually offers a number of different toolbars, which it displays—and you'll learn about—as needed.

You may be wondering how you'll remember the purpose of each of these buttons. The icons themselves often provide a clue—for instance, the button for opening a file features a picture of an open file folder. If you can't guess from the picture what a button is for, place your mouse pointer over the button. Access shows a short description of the command in the

Status bar at the bottom of the screen, and also displays the button name immediately below the toolbar—this is called a **ToolTip**. The ToolTips and Status bar messages are handy reminders when you can't recall the function of a particular toolbar button.

OPEN A DATABASE

Most of what you do in Access will involve working with databases. Here you'll use menus and dialog boxes to open an example database provided with Access.

1. Place your mouse pointer over the Open Database button on the toolbar, but for the moment don't click on it.

   Notice that Access displays the "Open Database" ToolTip and the message "Open an existing database" in the Status bar.

2. Now click on the Open Database button.

   Access displays the Open Database dialog box, which you saw earlier.

3. In the Directories list box, double-click on the SAMPAPPS directory.

   You'll see the sample application files provided with Access in the File Name list box on the left.

4. Double-click on NWIND.MDB in the File Name list box; NWIND is a sample database supplied with Access.

   The Database window for the NWIND database appears, as shown in Figure 1-8. Also notice that many more menu and toolbar options become available.

TOURING THE DATABASE WINDOW

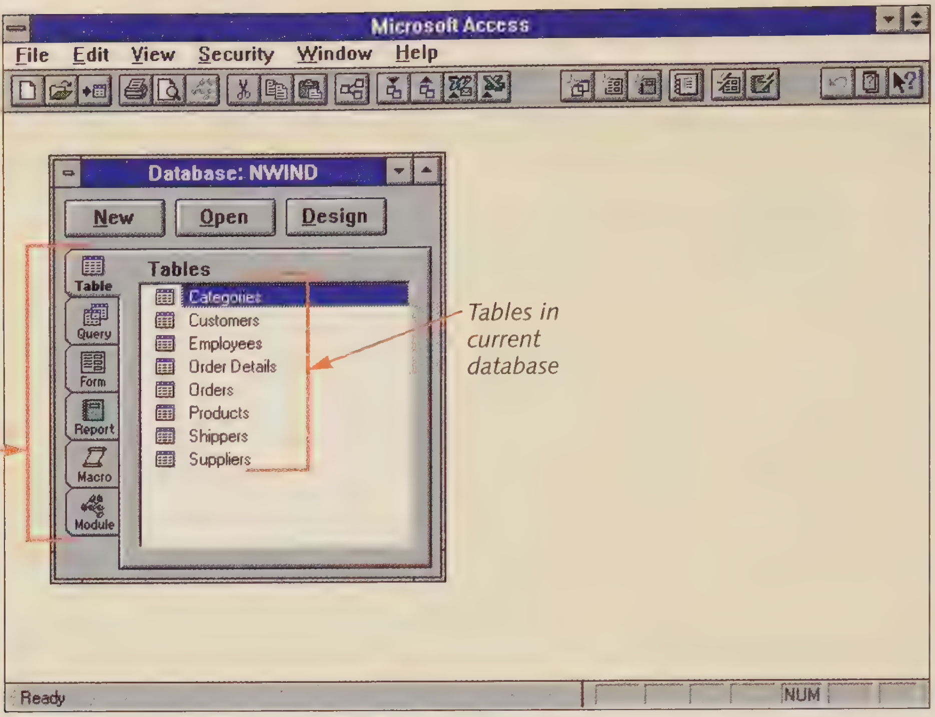
The **Database window** enables you to gain access to all the tables in your database, as well as to a number of other database objects (or components)—such as forms and reports—that you'll learn about shortly.

The **object buttons** down the left side of the Database window represent the available types of objects in Access. Click on the desired button to view an alphabetical list of the objects in question. Since the Table object button is selected by default, you should see a list of the tables in the NWIND database. Clicking on Report would display any reports in the NWIND database.

To open a particular object, click on it and then click on the Open button at the top of the Database window. To open a table, for example, click on the Table object button, click on the desired table name, and click on the Open button. You'll learn more about designing and creating tables in the next lesson, and you'll discover how to edit the data in your tables in Lesson 3.

FIGURE 1-8

To open an existing database, click on its name in the File Name list box. You'll see a Database window like this one.



Additional Menu bar options and Toolbar buttons become available when you open a database.

Object buttons

Tables in current database

TIP

When you select the Report object button, the Open button changes into a Preview button. Clicking on this button displays a **WYSIWYG** *(computer jargon for "what you see is what you get") preview of your report.*

Besides opening existing tables and other objects in Database window, you can create new ones. To do so, simply click on the desired object button (Table, for instance) and then click on the New button in the upper-left corner of the Database window.

Finally, you can change the design of objects through the Database window. For example, if one of your tables was missing a field, or had one field too many, you could easily remedy the problem. To do so, you would select the Table object button, select the table whose design you wanted to change, and click on the Design button in the upper-right corner of the Database window.

TIP

If you're bewildered about the difference between opening a table and designing one, keep this in mind: To change the layout of a table, use the Design button. To instead change the actual data in a table, use the Open button. You'll learn how to design tables in the next lesson, and you'll find out how to enter and edit data in Lesson 3.

When you're done working with a particular database, you can close the Database window by choosing Close Database from the File menu or by double-clicking on the Control-menu box in the Database window's upper-left corner. For now, leave the NWIND database open so you can explore the various components of Access in the next section.

OBJECTS: THE COMPONENTS OF ACCESS

In Access, the term *database* means not just the raw data stored in tables, but a collection of **objects**. These objects are really nothing mysterious; they're just the various components of Access. You've already learned about one such object: the table, which is the holding area for all your data. Access includes a number of other objects—including queries, forms, and reports—that enable you to work with and manipulate your data in a variety of ways, as described next.

QUERIES: EXTRACTING THE DATA YOU NEED

A **query** is just what its name implies: a question to the database, generally asking for a specified set of records from one or more tables. For example, you might ask the database to display all the customers in Hawaii, or any customers whose bills are past due. Access responds to such queries by displaying the requested data. Since a query is a stored question, rather than the stored response to a question, the results of the query will remain up-to-date even if the data in your tables changes. Queries are particularly invaluable because they enable you to both view and operate on selected subsets of your data.

FORMS: VIEWING, ENTERING, AND EDITING DATA MORE EASILY

You can view, enter, and edit data in tables, where data is laid out in series of rows and columns. Often, however, it's more convenient to use custom forms for this purpose. Access **forms** are the electronic equivalent of paper forms; you can use them to create a custom layout for your data, determining how the data from your tables is presented. For example, you could create a form that presents a single record at a time for data entry or editing, or one that displays only certain fields from a particular table. Forms are especially useful when you want to create a more friendly or visually manageable environment for data entry, or when you need to control which data is displayed.

REPORTS AND MAILING LABELS: GENERATING PRINTED OUTPUT

Often, you'll want not a set of data on the screen, but some form of printed output. You can create Access **reports** to produce polished printed output of your data, and you can generate **mailing labels** that will make it refreshingly easy to put out mass mailings. In either case, you can base your reports or mailing labels on data from tables or queries. You can also create reports that show totals and grand totals of the values in a particular field—such as salary or sales.

NOTE *You can also print forms, as well as data from tables and queries, but reports enable you to produce presentation-quality output with ease.*

A NOTE ON MACROS AND MODULES

Two other types of Access objects are macros and modules. **Macros** are sequences of commands that you can instruct Access to perform for you automatically. If you perform the same set of tasks repeatedly, you can create a macro to do the job for you and speed up your work. **Modules** are programs written in Access Basic, the database programming language provided with Access. Both macros and modules are beyond the scope of this book. If you want additional information, browse through the online Help system, consult your Access documentation, or refer to a more advanced book on Access.

PREVIEW THE COMPONENTS OF ACCESS

In this section, you'll get a look at some of the various objects in an Access database. Don't worry about understanding everything right off the bat. This is just a quick tour so you can get an idea of what's available and what the various objects might look like.

1. If the NWIND Database window is not already opened, open it as by following the instructions in the earlier section "Open a Database" on page 11.

   You should see the NWIND Database window on the screen, as shown in Figure 1-9. Notice that the Table object button is selected by default and the names of all the tables in the NWIND database are displayed under Tables.

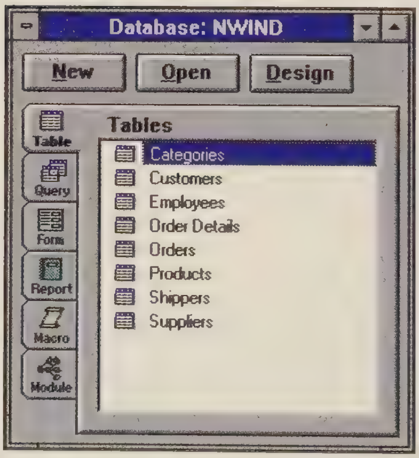


FIGURE 1-9 *Opening a Database window provides you with access to all of the objects in that database, including tables, forms, queries, and reports.*

2. Click on the Customers table to select it and then click on the Open button.

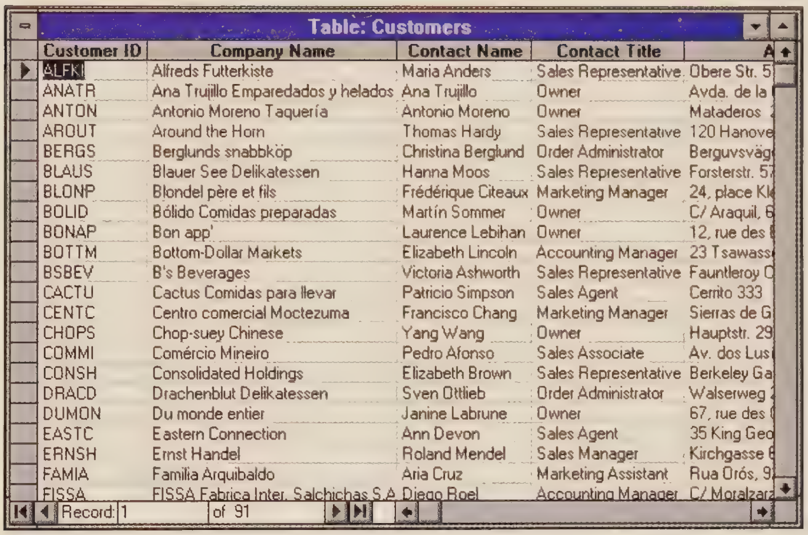
   You should see the data in the Customers table, arranged in a grid of columns (fields) and rows (records), as shown in Figure 1-10.

3. Double-click on the Customers table's Control-menu box. (Do *not* click on the Access Control-menu box—this will close the Access program.)

   Access removes the Customers table from the screen, returning you to the Database window for the NWIND database.

4. With the Customers table still selected, click on the Design button.

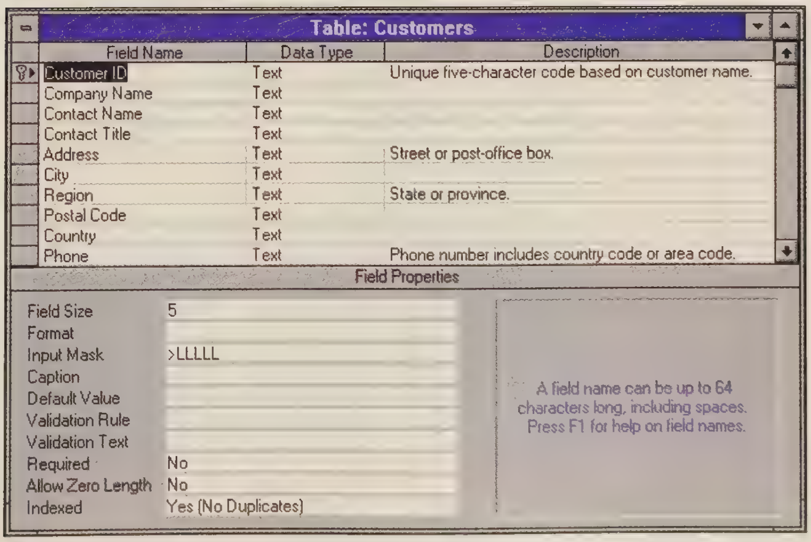
   You will see the Customers table in what's called ***Design view****, as shown in Figure 1-11. Here is where you can set up and modify the layout of your table, as you'll learn in the next lesson.*



Customer ID	Company Name	Contact Name	Contact Title	A
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 5
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanove
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsväg
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 57
BLONP	Blondel père et fils	Frédérique Citeaux	Marketing Manager	24, place Kl
BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	C/ Araquil, 6
BONAP	Bon app'	Laurence Lebihan	Owner	12, rue des
BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawass
BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy C
CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333
CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de G
CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29
COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	Av. dos Lus
CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Ga
DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg
DUMON	Du monde entier	Janine Labrune	Owner	67, rue des
EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King Geo
ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse
FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós, 9
FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	C/ Moralzarz

Record: 1 of 91

FIGURE 1-10
When you choose a table name in the Database window and then click on the Open button, Access displays the table's data in a grid of columns (fields) and rows (records).



Field Name	Data Type	Description
Customer ID	Text	Unique five-character code based on customer name.
Company Name	Text	
Contact Name	Text	
Contact Title	Text	
Address	Text	Street or post-office box.
City	Text	
Region	Text	State or province.
Postal Code	Text	
Country	Text	
Phone	Text	Phone number includes country code or area code.

Field Properties

Field Size	5
Format	
Input Mask	>LLLLL
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	Yes (No Duplicates)

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

FIGURE 1-11
When you choose a table name and then click on the Design button, Access displays the table in Design view, where you can change the layout of the table.

5. Choose File, Close.

   Again, Access closes the table, returning you to the Database window for the NWIND database.

6. Click on the Form object button in the Database window.

   You'll see a list of the forms in the NWIND database.

7. Click on the Customers form and then click on the Open button.

   Access reveals the Customers form, as you can see in Figure 1-12. Notice that this form displays one record from the Customers table you saw earlier.

8. Double-click on the form's Control-menu box.

   Access closes the form, returning you to the Database window.

9. Click on the Query object button in the Database window.

   You'll see a list of the queries in the NWIND database.

10. Click on the Customer List query and then click on the Open command button.

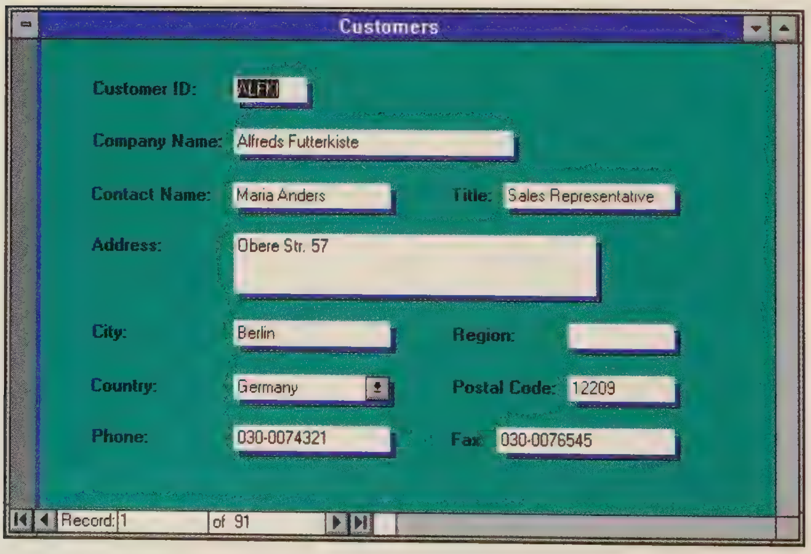
    Access reveals the Customer List query, as you can see in Figure 1-13. Notice that this query displays selected data from the Customers table you saw earlier; specifically, it shows only the company names and customer IDs. The rest of the data in the table has been filtered out.

11. Double-click on the query window's Control-menu box.

    Access closes the query, returning you to the Database window.

12. Finally, click on the Report object button.

    Access displays a list of the reports in the NWIND database.

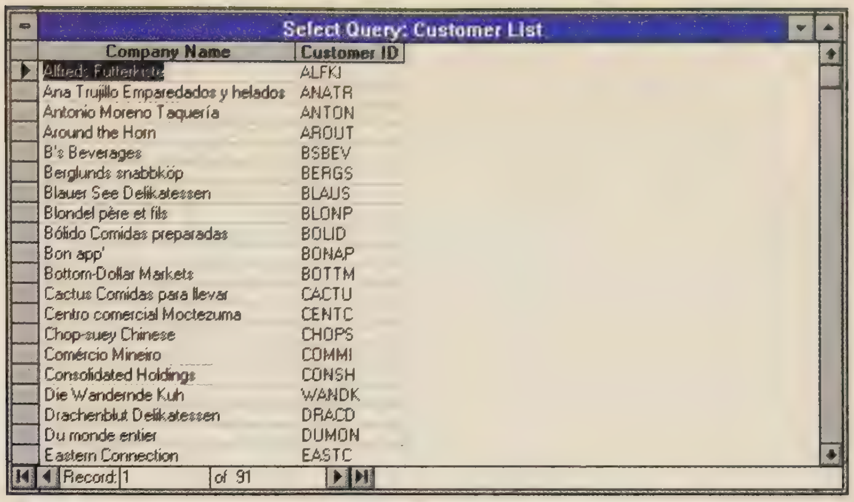


Customer ID:	ALFKI		
Company Name:	Alfreds Futterkiste		
Contact Name:	Maria Anders	Title:	Sales Representative
Address:	Obere Str. 57		
City:	Berlin	Region:	
Country:	Germany	Postal Code:	12209
Phone:	030-0074321	Fax:	030-0076545

Record: 1 of 91

FIGURE 1-12

To open a form, select it from the Database window and then click on the Open button.



Select Query: Customer List

Company Name	Customer ID
Alfreds Futterkiste	ALFKI
Ana Trujillo Emparedados y helados	ANATR
Antonio Moreno Taquería	ANTON
Around the Horn	AROUT
B's Beverages	BSBEV
Berglunds snabbköp	BERGS
Blauer See Delikatessen	BLAUS
Blondel père et fils	BLONP
Bólido Comidas preparadas	BOLID
Bon app'	BONAP
Bottom-Dollar Markets	BOTTM
Cactus Comidas para llevar	CACTU
Centro comercial Moctezuma	CENTC
Chop-suey Chinese	CHOPS
Comércio Mineiro	COMMI
Consolidated Holdings	CONSH
Die Wandernde Kuh	WANDK
Drachenblut Delikatessen	DRACD
Du monde entier	DUMON
Eastern Connection	EASTC

FIGURE 1-13

To open a query, select it from the Database window and then click on the Open button.

13. If necessary, click on the Alphabetical List Of Products report and then click on the Preview button.

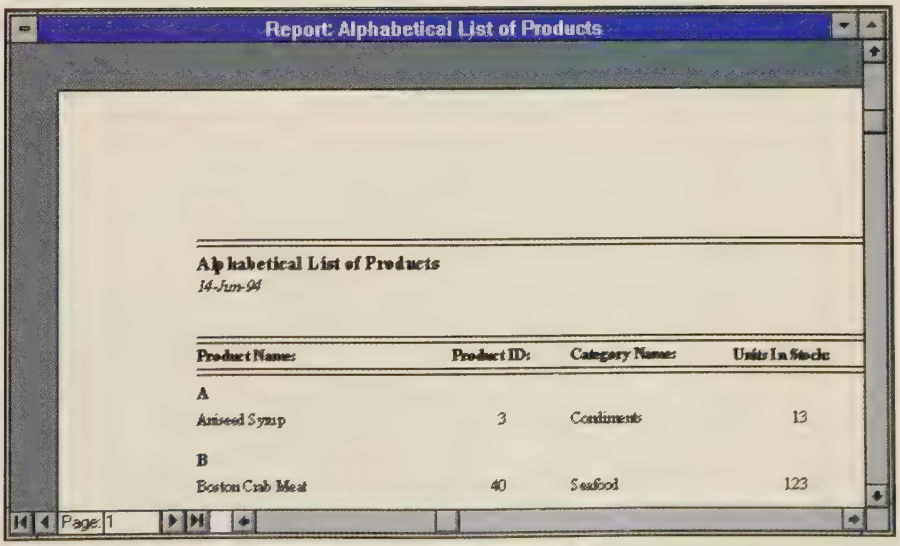
    In a moment, Access reveals the Alphabetical List of Products report, as you can see in Figure 1-14. Note that you're viewing a WYSIWYG ("what you see is what you get") preview that gives you a good idea of what this report will look like when it's printed.

14. Choose File, Close or click on the Close Window toolbar button.

    Access closes the report, returning you to the Database window.

GETTING HELP WHEN YOU NEED IT

No matter how much or how little you know about Access, you're going to need help at some point. Like many programs these days, Access provides an extensive online Help system. Simply put, this is an electronic manual that you can open with the press of a key or the click of a mouse



Report: Alphabetical List of Products

Alphabetical List of Products

14-Jun-94

Product Name:	Product ID:	Category Name:	Units In Stock:
A			
Aniseed Syrup	3	Condiments	13
B			
Boston Crab Meat	40	Seafood	123

FIGURE 1-14

To open a report, select it from the Database window and then click on the Preview button.

button. (If you've used another Windows program, you'll probably have a good grasp of how to get online help in Access, since Help systems in all Windows-based programs are very similar.) Online help has several advantages over paper manuals: You don't have to remove your fingers from the keyboard to get assistance, and there are several methods of making your way through the help system, so you can use it in the way that best suits your temperament or your needs.

NAVIGATING THROUGH THE HELP SYSTEM

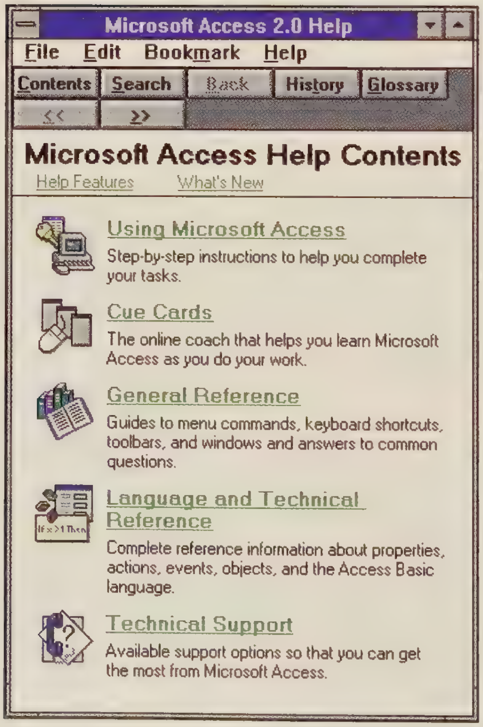
One way of finding information in the Help system is to skip from one related topic to another until you track down the information you need. In the Access Help system, help topics have **links** to other topics, so selecting one topic can lead you directly to another related topic, which in turn can enable you to pursue other topics. There are a number of ways of moving from topic to topic, as you'll learn here.

EXPLORE THE HELP SYSTEM

In this section, you'll look up a variety of help topics to acquaint yourself with some of the ways of maneuvering through the Help system.

1. Choose Help, Contents.

   This displays the Microsoft Access Help Contents screen pictured in Figure 1-15, which shows a number of general help categories.



Microsoft Access Help Contents

Using Microsoft Access
Step-by-step instructions to help you complete your tasks.

Cue Cards
The online coach that helps you learn Microsoft Access as you do your work.

General Reference
Guides to menu commands, keyboard shortcuts, toolbars, and windows and answers to common questions.

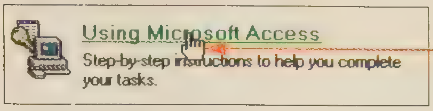
Language and Technical Reference
Complete reference information about properties, actions, events, objects, and the Access Basic language.

Technical Support
Available support options so that you can get the most from Microsoft Access.

FIGURE 1-15
To get to this Microsoft Access Help Contents screen, choose Help, Contents.

FIGURE 1-16

When you position the mouse pointer over jump, the pointer changes into a hand, signaling that you can click here to "jump" to another Help screen.



Using Microsoft Access

Step-by-step instructions to help you complete your tasks.

Hand pointer indicating that you're pointing to jump

2. Place your mouse pointer over the topic heading Using Microsoft Access; this type of underlined phrase is known as a **jump** because it enables you to "jump" to another related help screen.

   Notice that the mouse pointer changes into a hand when it's positioned over a jump, as shown in Figure 1-16.

3. Try placing your mouse pointer over a number of other underlined phrases in the Help Contents window, and also over some of the icons.

   The mouse pointer once again takes on the shape of a hand; both the underlined phrases and the icons are jumps.

4. Click on the jump Using Microsoft Access.

   Access displays the Using Microsoft Access Help screen.

5. Click on Tables to jump to yet another Help screen.

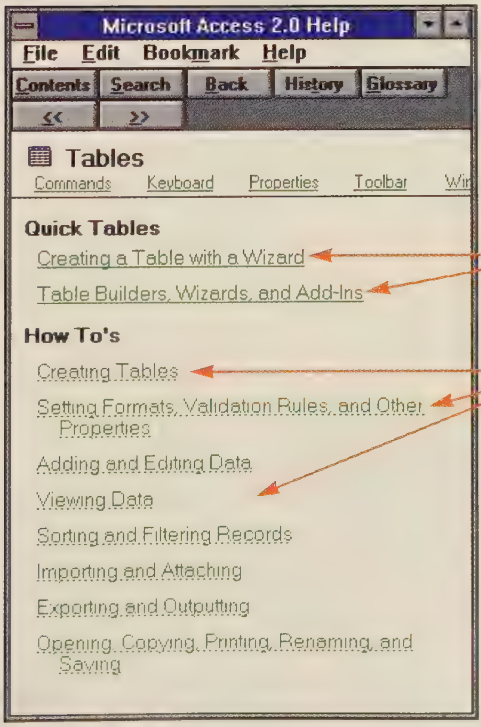
   You'll see the Tables Help screen shown in Figure 1-17; notice that this screen contains jumps with solid underlining and jumps with dashed underlining.

6. Click on the jump Creating Tables.

   Access displays the Creating Tables pop-up window shown in Figure 1-18. Clicking on a jump with dashed underlining always leads to a pop-up window containing either additional jumps or a definition of the underlined term.

FIGURE 1-17

Clicking on Tables in the Using Microsoft Access screen takes you to the Tables Help screen shown here.



Tables

Commands Keyboard Properties Toolbar Win

Quick Tables

Creating a Table with a Wizard

Table Builders, Wizards, and Add-Ins

How To's

Creating Tables

Setting Formats, Validation Rules, and Other Properties

Adding and Editing Data

Viewing Data

Sorting and Filtering Records

Importing and Attaching

Exporting and Outputting

Opening, Copying, Printing, Renaming, and Saving

Jumps that lead to additional Help screens

Jumps that lead to pop-up screens of information

7. Press any key or click anywhere on the screen.

   Access removes the pop-up display from view.

8. Next click on the jump Creating a Table with a Wizard in the Tables Help screen, and then click on the table jump near the top of the subsequent Help screen.

   In this case, Access displays a pop-up window containing a description of the term table, *as shown in Figure 1-19.*

9. Click anywhere on the screen or press any key.

   Access removes the pop-up window from the screen.

10. Click on the Back button just below the Help system's Title bar.

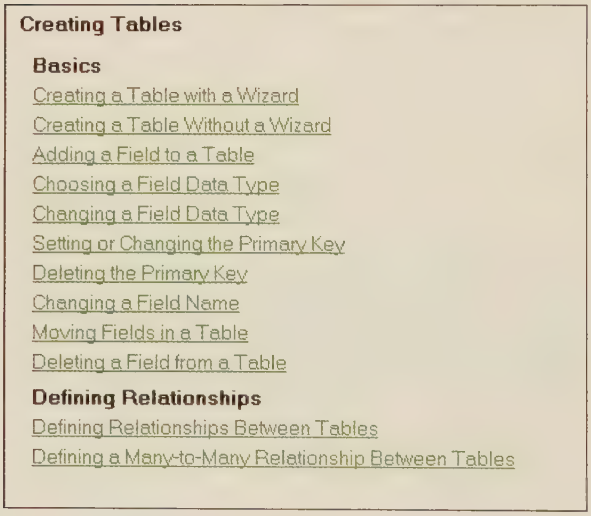
    You'll back up one Help screen, to the Tables screen you were in previously.

11. Click on the Contents button.

    Access returns you to the Microsoft Access Help Contents screen you encountered at the beginning of this exercise. Pressing the Contents button from anywhere in the Help system returns you to this Help Contents screen.

FIGURE 1-18

If you click on the Creating Tables jump in the Tables Help screen, Access displays the Creating Tables pop-up shown here.



Creating Tables

Basics

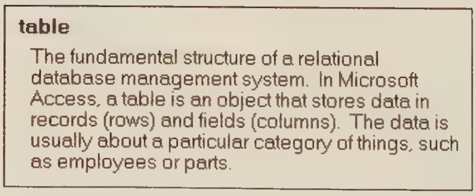
Creating a Table with a Wizard
Creating a Table Without a Wizard
Adding a Field to a Table
Choosing a Field Data Type
Changing a Field Data Type
Setting or Changing the Primary Key
Deleting the Primary Key
Changing a Field Name
Moving Fields in a Table
Deleting a Field from a Table

Defining Relationships

Defining Relationships Between Tables
Defining a Many-to-Many Relationship Between Tables

FIGURE 1-19

Sometimes, clicking on a jump with dashed underlining leads to a pop-up window defining the term you clicked on, as is the case here.



table

The fundamental structure of a relational database management system. In Microsoft Access, a table is an object that stores data in records (rows) and fields (columns). The data is usually about a particular category of things, such as employees or parts.

12. Double-click on the Control-menu box in the upper-left corner of the Help system screen.

This closes the Help system. The help system is not like a dialog box that you can remove by pressing Esc*, but is actually a separate program from which you should exit when you're done.*

WARNING

Clicking outside the Access Help system will remove it from view but will not close it; even though you can't see it, the Help program will still be running in the background. If this happens and you want to resume working with the Help system, press Ctrl+Esc *and then double-click on Microsoft Access 2.0 Help.*

13. Note that the NWIND Database window is still open, and press F1.

After a moment's hesitation, Access opens the Databases Help screen, as shown in Figure 1-20. F1 *brings up* ***context-sensitive help****—that is, help on the task you're performing at the moment.*

14. Choose File from the Help window's Menu bar, and choose Exit.

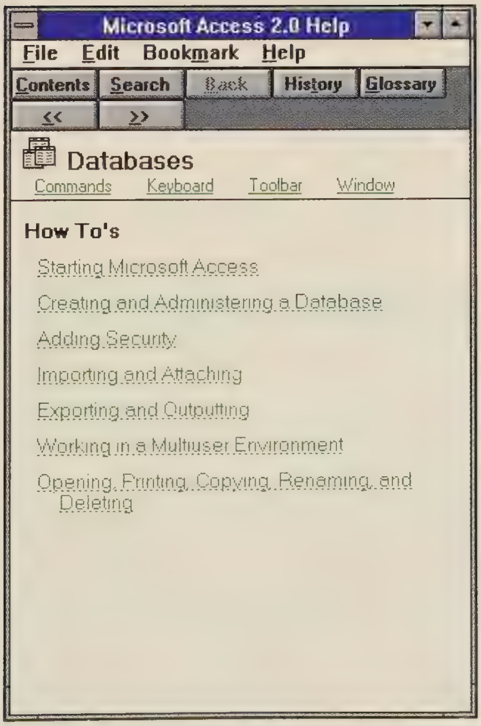
Access closes the Help system.

15. Click on the Help button on the far right end of the toolbar or press Shift+F1.

The mouse pointer changes into an arrow with a question mark attached, almost like the Help toolbar button itself.

FIGURE 1-20

Pressing F1 *from within the Database window takes you directly to the Database's Help screen. You can use this technique to get help without going through the menu system.*



Databases

Commands Keyboard Toolbar Window

How To's

Starting Microsoft Access

Creating and Administering a Database

Adding Security

Importing and Attaching

Exporting and Outputting

Working in a Multiuser Environment

Opening, Printing, Copying, Renaming, and Deleting

16. Click in a blank area of the toolbar.

You should see the Database Window Toolbar Help screen. The Help button provides another means of obtaining context-sensitive help.

17. Double-click on the Help system's Control-menu box.

Access closes the Help window.

USING THE SEARCH FEATURE

It's good to know how to jump your way through the Help system, but if you have a clear sense of what you're looking for, it's often more efficient to use Help system's search feature. This feature lets you hunt for keywords that are arranged in alphabetical order, quickly zeroing in on the needed help information.

SEARCH FOR SPECIFIC TOPICS

Here you'll use the search feature to find information about creating Access queries.

1. Choose Help, Search.

Access opens the Help system and displays the Search dialog box shown in Figure 1-21.

TIP

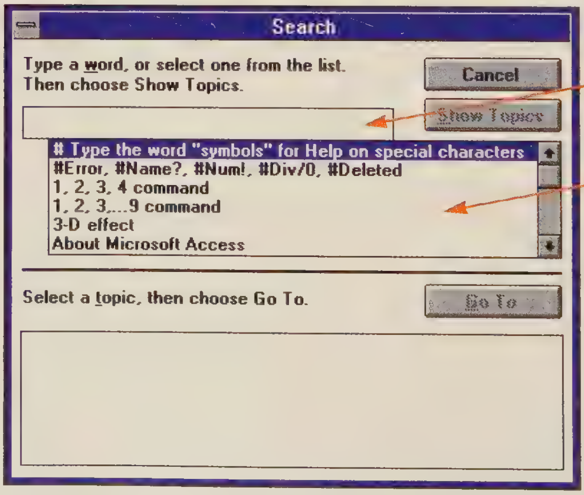
If you're already in the Help system, you can choose the Search button near the top of the window to display the Search dialog box.

2. Begin typing the word you want to search for. In this case, start by typing just the letter q in the text box at the top of the Search dialog box.

Access skips directly to QBColor, the first keyword beginning with the letter q.

FIGURE 1-21

Choose Help, Search to activate the Help system and display the Search dialog box shown here. This dialog box enables you to look up help topics by searching for keywords that are stored in alphabetical order.



Type a word, or select one from the list.
Then choose Show Topics.

Type the word "symbols" for Help on special characters
#Error, #Name?, #Num!, #Div/0, #Deleted
1, 2, 3, 4 command
1, 2, 3,...9 command
3-D effect
About Microsoft Access

Select a topic, then choose Go To.

Type in characters here.

Matching keywords are displayed here.

3. Next, type u

   Access now displays a new set of keywords that begin with the letters qu.

4. Type e

   You should see a list of the first keywords that match the string of characters que. *Notice that the item at the top of the list is "Queries." As you can see, it's often possible to hone in on the desired topic without typing it out in full.*

5. Although the keyword "Queries" looks promising, you can find something closer to the topic you want. Scroll down until you see "queries: creating," and then click on it to select it.

6. At this point, click on the Show Topics button.

   You'll see a series of relevant topics in the list box at the bottom of the Search dialog box, as shown in Figure 1-22.

7. Click on the topic "Creating a Query with a Wizard" it to select it, and then click on the Go To button to go to the Help screen by that name.

   Access displays the Creating A Query With A Wizard Help screen, as shown in Figure 1-23.

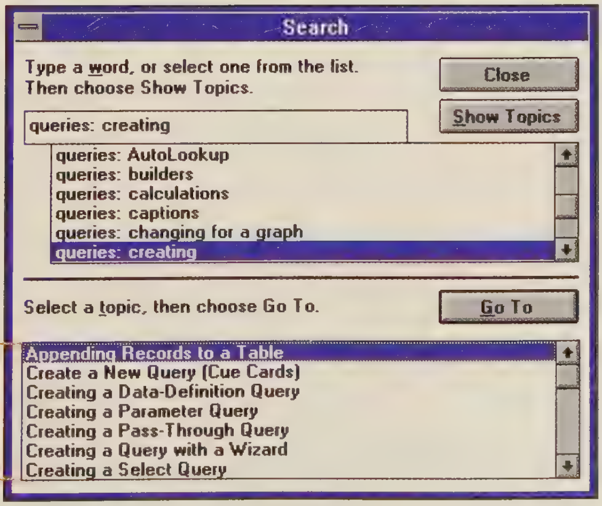
8. Skim this Help screen, noting that it discusses an easy way of creating certain queries. When you're done, double-click on the Help system's Control-menu box to leave the Help system.

NOTE

Wizards *are special tools that guide you through the process of creating various objects—including tables, queries, forms, and reports. Wizards work by prompting you with questions about the object you're creating; they then build that object based on the answers you have supplied. You'll use Wizards throughout your work in this tutorial.*

FIGURE 1-22

Highlight the desired keyword and then click on the Show Topics button in the Search dialog box to display a list of relevant help topics, as shown here.



Type a word, or select one from the list.
Then choose Show Topics.

queries: creating

queries: AutoLookup
queries: builders
queries: calculations
queries: captions
queries: changing for a graph
queries: creating

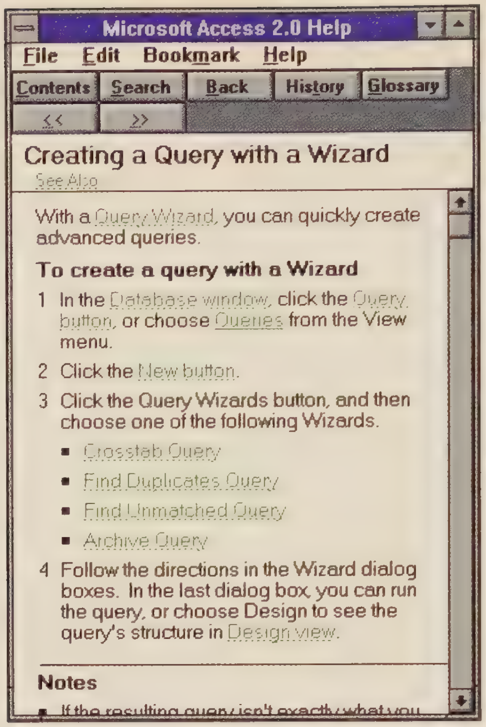
Select a topic, then choose Go To.

Appending Records to a Table
Create a New Query (Cue Cards)
Creating a Data-Definition Query
Creating a Parameter Query
Creating a Pass-Through Query
Creating a Query with a Wizard
Creating a Select Query

Help topics relevant to the selected keyword

FIGURE 1-23

When you choose a topic in the Search dialog box and click on the Go To button, Access displays the requested Help screen.



Creating a Query with a Wizard

See Also

With a Query Wizard, you can quickly create advanced queries.

To create a query with a Wizard

1 In the Database window, click the Query button, or choose Queries from the View menu.

2 Click the New button.

3 Click the Query Wizards button, and then choose one of the following Wizards.

- Crosstab Query
- Find Duplicates Query
- Find Unmatched Query
- Archive Query

4 Follow the directions in the Wizard dialog boxes. In the last dialog box, you can run the query, or choose Design to see the query's structure in Design view.

Notes

- If the resulting query isn't exactly what you

GETTING HELP FROM CUE CARDS

If you require a bit of extra hand-holding as you take your first steps in Access, Cue Cards may be just what you need. **Cue Cards** present step-by-step directions that help you perform common Access tasks such as creating tables and designing forms. Best of all, Cue Cards let you work within the database as you read, so you can try things out as you go along. (In the regular Help system, by contrast, you can read topics but cannot simultaneously work on your database.) This hands-on practice will both help you learn and help you retain what you learn.

DRILL WITH CUE CARDS

Now you will take a quick tour of the Cue Cards.

1. Choose Help, Cue Cards or click on the Cue Cards button on the toolbar.

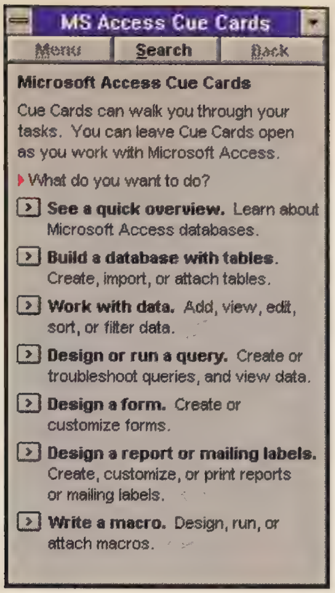
   Access displays the main Cue Card screen, as shown in Figure 1-24.

2. Click on the See A Quick Overview button.

   Access presents the Quick Overview screen.

FIGURE 1-24

To display the Cue Cards screen shown here, choose Help, Cue Cards or click on the Cue Cards toolbar button.



Microsoft Access Cue Cards

Cue Cards can walk you through your tasks. You can leave Cue Cards open as you work with Microsoft Access.

What do you want to do?

See a quick overview. Learn about Microsoft Access databases.

Build a database with tables. Create, import, or attach tables.

Work with data. Add, view, edit, sort, or filter data.

Design or run a query. Create or troubleshoot queries, and view data.

Design a form. Create or customize forms.

Design a report or mailing labels. Create, customize, or print reports or mailing labels.

Write a macro. Design, run, or attach macros.

3. Click on the Tables button.

   You should see the first of a series of screens describing what tables are and how they work, as illustrated in Figure 1-25.

4. Click on the Next button in the lower-right corner of the screen.

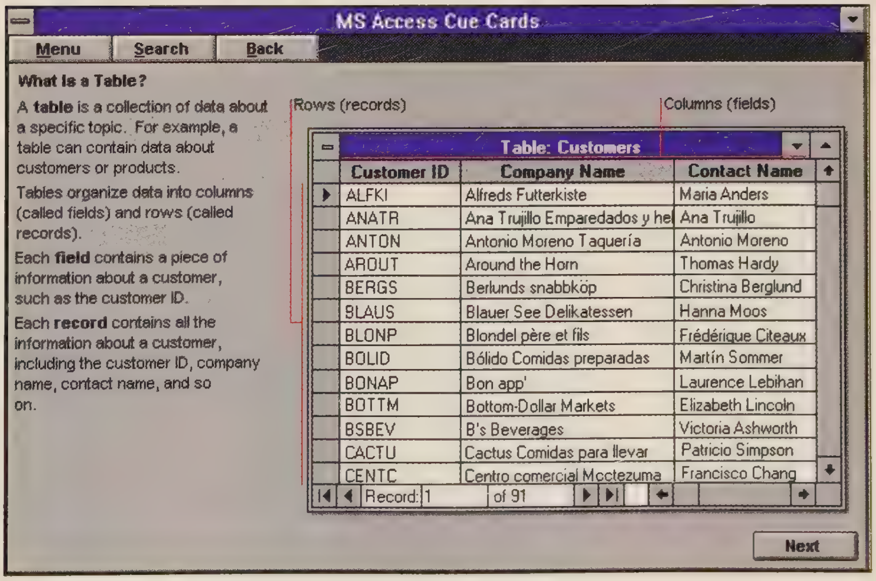
   Access brings up an additional screen of information describing tables.

5. After scanning the information on the screen, click on the Next button again.

   Access displays another Cue Cards screen about tables, You Can Build A Database With Tables, as shown in Figure 1-26.

FIGURE 1-25

If you choose the Tables button in the Cue Cards Quick Overview screen, Access presents this window describing what tables are and how they're laid out.



What Is a Table?

A **table** is a collection of data about a specific topic. For example, a table can contain data about customers or products.

Tables organize data into columns (called fields) and rows (called records).

Each **field** contains a piece of information about a customer, such as the customer ID.

Each **record** contains all the information about a customer, including the customer ID, company name, contact name, and so on.

Customer ID	Company Name	Contact Name
ALFKI	Alfreds Futterkiste	Maria Anders
ANATR	Ana Trujillo Emparedados y hel	Ana Trujillo
ANTON	Antonio Moreno Taquería	Antonio Moreno
AROUT	Around the Horn	Thomas Hardy
BERGS	Berlunds snabbköp	Christina Berglund
BLAUS	Blauer See Delikatessen	Hanna Moos
BLONP	Blondel père et fils	Frédérique Citeaux
BOLID	Bólido Comidas preparadas	Martín Sommer
BONAP	Bon app'	Laurence Lebihan
BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln
BSBEV	B's Beverages	Victoria Ashworth
CACTU	Cactus Comidas para llevar	Patricio Simpson
CENTC	Centro comercial Moctezuma	Francisco Chang

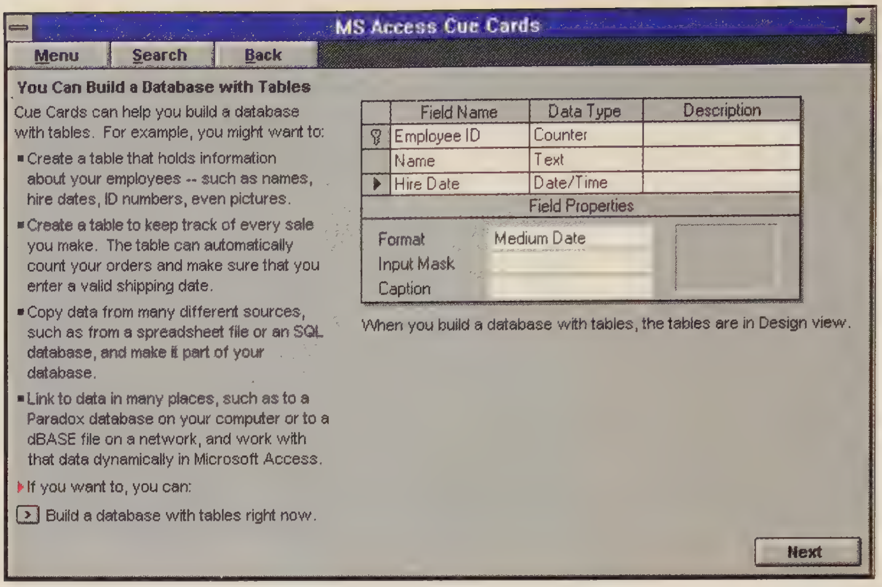


FIGURE 1-26

Clicking on the Next button in the Views Of A Table Cue Cards screen displays this window about building databases.

You Can Build a Database with Tables

Cue Cards can help you build a database with tables. For example, you might want to:

- Create a table that holds information about your employees -- such as names, hire dates, ID numbers, even pictures.
- Create a table to keep track of every sale you make. The table can automatically count your orders and make sure that you enter a valid shipping date.
- Copy data from many different sources, such as from a spreadsheet file or an SQL database, and make it part of your database.
- Link to data in many places, such as to a Paradox database on your computer or to a dBASE file on a network, and work with that data dynamically in Microsoft Access.

If you want to, you can:

☐ Build a database with tables right now.

Field Name	Data Type	Description
Employee ID	Counter	
Name	Text	
Hire Date	Date/Time	

Field Properties

Format: Medium Date
Input Mask:
Caption:

When you build a database with tables, the tables are in Design view.

6. Click on the Build A Database With Tables Right Now button in the lower-left corner of this Cue Cards window, click on Create Or Open A Database, and then click on Open An Existing Database.

   Access displays the Open An Existing Database Cue Cards screen, as shown in Figure 1-27.

7. For now, simply read the instructions in the Cue Cards screen, noting that they describe the process you used to open a database earlier in this lesson. If you wanted to open a database, you could carry out the described procedures without removing the Cue Cards from the screen.

8. Click on the Back button.

   Access returns you to the previous Cue Cards window.

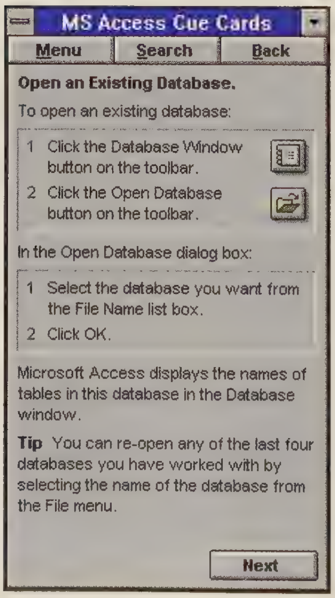


FIGURE 1-27

When you choose the Open An Existing Database button from the Create Or Open A Database Cue Card screen, Access displays this set of instructions.

Open an Existing Database.

To open an existing database:

1 Click the Database Window button on the toolbar.
2 Click the Open Database button on the toolbar.

In the Open Database dialog box:

1 Select the database you want from the File Name list box.
2 Click OK.

Microsoft Access displays the names of tables in this database in the Database window.

Tip You can re-open any of the last four databases you have worked with by selecting the name of the database from the File menu.

9. Click on the Menu button.

   Access displays the most recent Cue Cards screen containing a menu of options.

10. Double-click on the Cue Cards's Control-menu box.

    Access removes the Cue Cards from the screen.

CREATING YOUR OWN DIRECTORY

In preparation for carrying out the many guided activities in this tutorial, it's a good idea to create a special directory in which to save your data. If you're working in a computer lab and cannot save your files on the hard drive, instead save your data on floppy disks. Ask your instructor or lab assistant if you need help on this score.

CREATE A DIRECTORY FOR YOUR DATA

This section describes how to create a directory in which to store the data you use and create in this tutorial.

1. Press Ctrl+Esc.

   You'll see the Task List, which should resemble the one shown in Figure 1-28. It displays all the programs you're currently running in Windows. At a minimum, you'll see Microsoft Access and Program Manager, and you may see the names of additional programs.

2. Click on Program Manager in the Task List to select it, and click on the Switch To button.

   You are returned to your Program Manager screen.

3. If necessary, double-click on the Main program group to open the group window (you won't need to do this if the Main group window is already open), and then double-click on the File Manager icon.

   You'll see a File Manager window.

TIP *If you can't find the Main program group on the screen, pull down the Window menu and look for it there.*

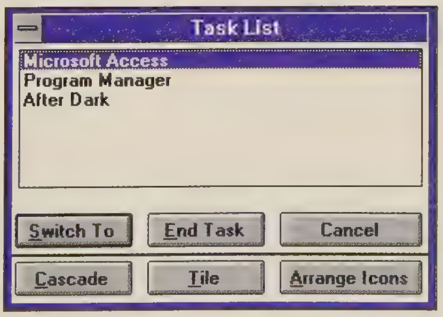


FIGURE 1-28
Press Ctrl+Esc to display the Windows Task List, which tells you which programs you're running in Windows. The Task List also lets you close programs and switch between programs.

4. The ACCESS directory should be selected in the directory display on the left. If not, select it now by clicking on it.

5. Choose Create Directory from the File Manager's File menu.

   You'll see the Create Directory dialog box.

6. Type the directory name **fruitful** in the Name text box, and then click on OK.

   The Create Directory dialog box closes, and the new directory FRUITFUL should appear as a subdirectory of the ACCESS directory in the File Manager display.

7. Double-click on the File Manager's Control-menu box to close the Windows File Manager.

8. Press Ctrl+Esc to open the Task List once again, click on Microsoft Access to select it, and then click on the Switch To button.

   You are returned to Access.

QUITTING ACCESS

When you're done using Access, you should *not* simply turn off your computer. Instead, you need to exit the program properly. There are several options for quitting the program. You can

- Choose File, Exit.
- Double-click on the Control-menu box at the far left end of the Access Title bar.
- Press Alt+F4.
- Click on the Control-menu box and choose Close from the Control menu that appears.

Quit Access now, or leave it open so you can continue with Lesson 2, where you'll learn about designing databases and creating tables.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Start Access	Double-click on Microsoft Access program item		
Open File menu	Choose File	Alt+f	
Close menu	Click anywhere outside menu	Esc, Esc	
Open Open Database dialog	Choose File, Open Database	Ctrl+o	📂
Close dialog box	Click on Cancel or Close	Esc	
Open Help menu	Choose Help	Alt+h	
Open Help Contents screen	Choose Help, Contents	Alt+h, c	
Obtain context-sensitive help on screen items	Click on Help button and click on screen element on which you want help	Shift+F1	?
Obtain context-sensitive help on dialog boxes and menu options	Click on Help button, click on desired Menu bar option, and select menu option in question	F1 with menu option selected or the dialog box open	?
Open Search dialog box in Help system	Choose Help, Search	Alt+h, s	
Open Cue Cards	Choose Help, Cue Cards	Alt+h, u	?
Close any window	Double-click on window's Control-menu box		
Exit from Access	Choose File, Exit or Double-click on Control-menu box to left of Microsoft Access Title bar	Alt+x	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS	DEFINITIONS
1. DBMS	**a.** Captions for toolbar buttons
2. Query	**b.** One of several mutually exclusive options
3. Object	**c.** Access aid that provides guidance while enabling you to work in Access
4. Record	**d.** Items that permit you to move directly to related help topics
5. Field	**e.** Official name for database management system
6. Wizard	**f.** One category of information in table
7. WYSIWYG	**g.** Underlined letter in option name that activates option in question
8. Cue Cards	**h.** Question requesting specific information from database
9. Jumps	**i.** Name for various components of Access
10. ToolTips	**j.** Group of fields related to particular entity
11. Radio button	**k.** Access device that helps you build objects by asking questions and noting your responses
12. Hot key	**l.** Screen display showing things much as they will be printed

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. When a menu option is followed by an ellipsis:

a. It is disabled in the current context.

b. It leads to another menu.

c. It leads to a dialog box.

d. You can select it by pressing its hot key.

2. Option buttons in dialog boxes usually represent:

- **a.** Mutually exclusive options from which you can choose.
- **b.** One of several options, any and all of which you can choose.
- **c.** Lists of predefined values from which you can choose.
- **d.** Areas for typing in text.

3. An Access query is:

- **a.** The repository for your data
- **b.** A set of instructions to Access for displaying your data in printed form
- **c.** A set of instructions to Access for displaying your data in a user-friendly configuration on the screen
- **d.** A question to the database, usually asking for a specific subset of data

4. When you want presentation quality hard copy, you should print:

- **a.** A table
- **b.** A form
- **c.** A report
- **d.** A database

5. A record is:

- **a.** One particular category of information
- **b.** A column in your database
- **c.** Printed output of your data
- **d.** All the fields related to a particular entity

6. Context-sensitive help means:

- **a.** Help on what it is you're doing at the moment
- **b.** Help you get from Cue Cards
- **c.** Help you get from an Access Wizard
- **d.** Help you obtain by pressing Ctrl+F1

7. In Access, the term *database* means:

- **a.** All the data in your tables
- **b.** A set of related tables, forms, reports, queries, macros, and modules
- **c.** Data organized into rows and columns
- **d.** All of the above

8. A field is:

- **a.** A row in your database
- **b.** All the information related to one person
- **c.** A single category of information
- **d.** One of the main Access objects

9. When you're done with Access for the day, you should:

- **a.** Switch to the File Manager.
- **b.** Turn off your computer.
- **c.** Reboot from a floppy.
- **d.** Exit the program.

10. When you click on a grayed toolbar button:

- **a.** Access activates that toolbar.
- **b.** Access carries out the requested command.
- **c.** Access beeps and displays a warning message.
- **d.** Nothing happens.

SHORT-ANSWER QUESTIONS

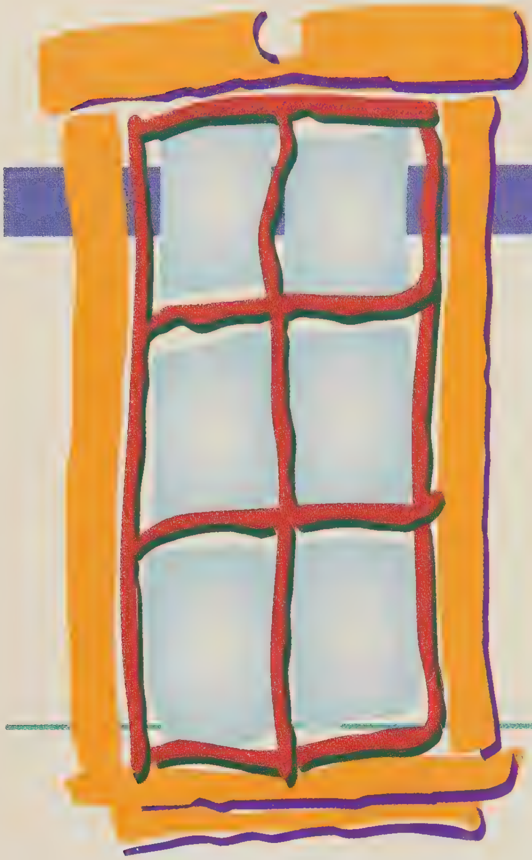
Write a brief answer to each of the following questions.

1. Name the four types of Access objects that will be covered in this tutorial.
2. Describe mouse and keyboard methods for displaying the Open Database dialog box *without* going through the menu system.
3. What's the name of the screen element directly under the Access Title bar? Does it ever change?
4. When would you use forms rather than tables for data entry?
5. From within a Database window, how would you open a table in order to change its layout?
6. What's the main difference between Cue Cards and the ordinary Help system?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Use the Help system's search feature to hunt for information on creating queries with a Wizard. Then track down similar information using the Cue Cards. (Hint: Look for information on creating new queries.)
2. Open the NWIND Database window and open the Orders table in Design view. Then use the scroll bars on the right side of the window to view all the field names, data types, and descriptions. (You'll learn more about these table elements—and this window for designing tables—in the next lesson.)
3. Open the Customers table. Use the scroll bars to browse through the data, noting what data there is and how it is displayed. Notice that you have to scroll to the right to see all the fields in the table. Next close the Customers table and then open the Customers form. Notice what data you see and how it is displayed. Press [Page Down] a few times, and then press [Page Up] a few times, again taking careful notice of which data you see.



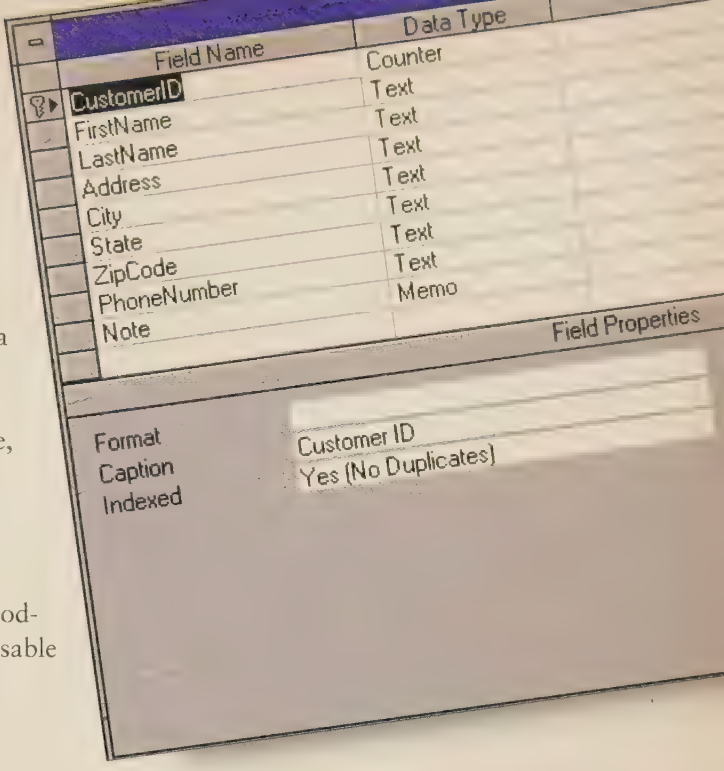
LESSON 2

DESIGNING AND CREATING DATABASES

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Plan your database, determining what data you need to store, how many tables you need, and how those tables should be set up.*
- *Create a database in which to store your tables.*
- *Create a table with the Table Wizard.*
- *Create a table in Table Design view.*
- *Save your table design.*
- *Modify the design of a table, renaming, adding, removing, and moving fields, among other things.*



Field Name	Data Type
CustomerID	Counter
FirstName	Text
LastName	Text
Address	Text
City	Text
State	Text
ZipCode	Text
PhoneNumber	Text
Note	Memo

Field Properties

Format	
Caption	Customer ID
Indexed	Yes (No Duplicates)

The most important thing you learn in this chapter is how to plan ahead—determining what data items to store and how many tables you'll need. You then learn how to create a database, as well as a couple of ways of creating tables. Next you find out how to save tables so you can use them for future work. Lastly, you discover how to modify existing tables, an indispensable skill in this world of constant change.

PLANNING AHEAD

After acquiring Access, your first impulse may be to plunge into the deep end, quickly creating a database, constructing one or more tables, and then entering some of your data. This is *most definitely* not the way to go. You can often get away with "winging it" like this when creating documents in a new word processing program or even when creating worksheets in a new spreadsheet program. (In fact, in these cases, you may profit from first getting into trouble and then finding out how to get out of it.) But you are guaranteed to experience problems later on down the line if you leap too quickly into the process of creating a database, without doing some advance planning. Don't be intimidated, however; this planning process is pretty straightforward. Besides, once you design your database, the jobs of actually creating an Access database and building a few tables will seem remarkably easy.

Before you begin building a database, at a minimum you need to determine what the database is for and what it should do, what items of information (or fields) you need to achieve the desired results, and how to break down these fields into a number of separate tables. You also need to think about how you might relate those tables together later in order to use information from two or more of them simultaneously.

DETERMINING THE PURPOSE OF THE DATABASE

It may seem obvious, but the first step in determining how to put together your database is to figure out what it's for. If you have an existing database system, you should investigate that system, reviewing any reports and forms that you'll need to duplicate and noting which items of information they must include. Also make sure to talk to people who actually use the database, checking up on what they use the system for and what they need. If you're not working with an existing system, think very carefully about what the new system should do, jotting down the items of information the system should keep track of and sketching out any forms and reports you think you'll need.

Throughout the planning process, keep in mind that determining what you want out of your database will help you determine what data it must contain. For example, if you need to be able to print salary reports according to department, your database must list the department for each employee. Also, consider how you want to sort or extract data. For instance, if you want to be able to sort customers by last name, you should include both a first-name and a last-name field, rather than a single field that includes both names. At this stage of the planning process, you can just make one large list of all the information you need. In a moment, you'll learn about how to break down this information into more manageable chunks.

NOTE

In the planning stage, you can ask users of the current system to supply you with a "wish list" of things they'd like to be able to do. Keep in mind that you aren't confined to duplicating a current manual system; you can often improve on the existing system while computerizing.

The sample application in this tutorial is the database for a fruit-of-the-month club called Be Fruitful. Members of this club can choose whether to order the fruit offered for a particular month, and can also decide how much fruit to order. Some of the items of information needed in this database are:

- The name, address, and phone number for each customer and notes about shipping
- When the customer joined the club
- The types of fruit, their prices, and the units offered (3 pints strawberries, 2 dozen kiwis, and so forth)
- How many units of fruit each member orders in a month
- When an order was placed and when and how it was paid for

DETERMINING HOW MANY TABLES YOU NEED

All but the simplest of databases will contain multiple tables so Access can contend with your data more efficiently. In other words, your task is not only to determine what items of information (or fields) your database should contain, but also how that information should be broken down logically into several tables.

The first thing to keep in mind is that each table should contain information on a single subject. For example, in the database for Be Fruitful, you might have one table that contains customer information, a second table that includes information about available fruits, and a third one that contains orders information. You wouldn't include customer names and addresses in the orders table, because these fields describe the customer, not the order. Breaking down your database in this way helps to avoid duplication of data. You don't want to have to enter the customer's name and address in each order, for example, since this wastes storage space, requires extra typing, and increases the likelihood of data-entry errors. In addition, if you store the customer name and address information in a single customer record rather than in multiple order records, it's much easier to update your data later on down the road. It may seem counterintuitive to divide your data among multiple tables in this way—for example, you may want to use information about both customers and orders in an invoice form—but keep in mind that Access enables you to pull together data from many sources when creating forms and reports.

Tables also should not include multiple instances of the same field or a similar set of fields. For example, suppose you had a mail-order business and your customers often ordered multiple items at once. To be able to record all of those orders in the orders table, you'd need to have multiple fields for product ID, price, and quantity. A better solution would be to have a separate line-items table in which you could jot down each item being ordered.

Finally, as a general rule, your tables shouldn't include fields that you can calculate from data already contained in your database. If you have a field for price and one for quantity, for instance, you can calculate the total by multiplying these two values together—you don't need a total field.

Figure 2-1 shows a tentative list of fields for the three tables in Be Fruitful's database.

DETERMINING HOW TABLES WILL WORK TOGETHER

Once you've decided how to divide the information in your database into multiple tables, you have a corresponding task: You need to determine how to set up those tables so you can combine the information they contain into single forms or reports. For instance, if you have separate orders and customers tables, you clearly need a way to pull the data from both tables together so you can create an invoice that includes corresponding customer and order information.

For you to be able to use two tables in combination, they must include a **common field**. For example, to ensure that you can relate the fruit-of-the-month club's customers and orders tables, you could include a customer ID field in both tables. This field would enable Access to match up the order with the customer who placed the order.

FIGURE 2-1

Here is a tentative list of the fields needed in the three tables you'll need to set up Be Fruitful's database.

Customers Table	**Orders Table**	**Fruits Table**
Customer ID	Customer ID	Type of fruit
Last name	Order date	Price
First name	Type of fruit	Description of units (for example, 3 pints strawberries, 2 dozen kiwis)
Address	Quantity	
City	Price	
State	Payment date	
Zip code	Payment amount	
Phone number	Payment type	

When determining how to relate tables, you must also consider the concept of primary keys. A **primary key** is a field or set of fields that uniquely identifies each record in the table. This is particularly important in cases where you need to link up data in two tables. For instance, in the fruit-of-the-month club database, you need a primary key in the customers table—some way to uniquely identify customers so that you can tell which orders belong to which customers. A customer ID field can serve this purpose. (You wouldn't want to use the name fields as the primary key, in case you had two customers with the same name.) When you set a primary key, Access sorts records in order according to the values in that key. Because the primary key must uniquely identify each record, Access also won't permit you to enter duplicate values in the primary key field(s).

Although there is more to determining how to link your tables, at this stage of the game you'll just include common fields in the tables you need to use together and set some primary keys. In Lesson 4, you'll learn how to create queries that draw on multiple tables; in Lesson 7, you'll learn much more about how to identify the different types of relationships between tables, and how to establish formal relationships between tables so that Access can enforce certain rules to guarantee that your data makes sense.

CREATING A DATABASE

As you may remember from the previous lesson, in Access the term *database* means not just a collection of data, but a set of related tables, forms, reports, queries, and more. Before you begin creating tables in which to store your data, you need to create a database—an easy process that should seem that much easier because you've already looked over an existing database.

CREATE A DATABASE

Here you will create a database to serve as the repository for your tables, as well as all the related queries, forms, and reports you'll be creating throughout this tutorial.

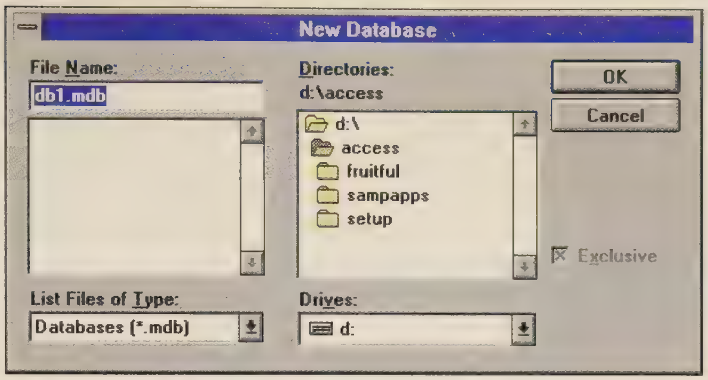
1. Start Access, if you haven't done so already. (Refer to the previous lesson if necessary to jog your memory.)

   Access may bring you to the Welcome screen.

2. If necessary, double-click on the Control-menu box in the upper-left corner of the Welcome screen to remove it from view.

3. Choose File, New Database or click on the New Database toolbar button.

   You should see the New Database dialog box, as shown in Figure 2-2. Notice that this dialog box is very similar to the Open Database dialog box you saw in the previous lesson.



New Database

File Name: db1.mdb

Directories: d:\access

List Files of Type: Databases (*.mdb)

Drives: d:

☒ Exclusive

FIGURE 2-2

Clicking on the New Database toolbar button or choosing File, New Database brings up the New Database dialog box, which is shown here.

4. In the Directories list box, double-click on the FRUITFUL directory that you created in Lesson 1 to switch to that directory. This is where you'll store all the database objects that you create or work with in this tutorial.

   Below "Directories" at the top of the New Database dialog box, the display will change to c:\access\fruitful (or perhaps d:\access\fruitful), indicating that Access will store the new database you're creating in the FRUITFUL subdirectory.

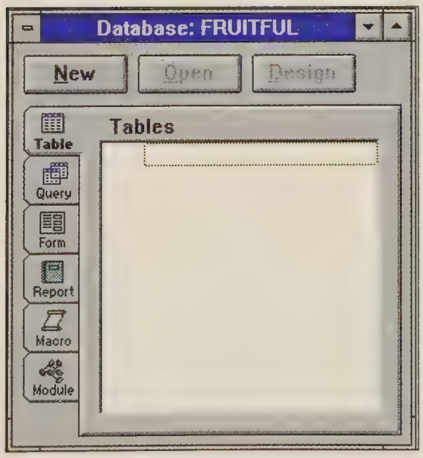
5. In the File Name text box, delete the suggested file name db1.mdb, type **fruitful**, and then click on OK.

   After a pause, Access displays the Database window for the FRUITFUL database, as shown in Figure 2-3.

NOTE

Database names must conform to DOS file-naming conventions, which is to say that they must be eight or fewer characters long, can contain letters, numbers, and some punctuation marks, but must not include spaces. Don't type in a file extension; Access enters the standard .MDB file extension for you.

6. In this case, the database is empty. Notice that the Table object button is selected, but no table names are displayed in the Database window



Database: FRUITFUL

FIGURE 2-3

Once you supply a directory, enter a file name, and click on OK, Access creates and displays the Database window for the database you've just created.

and the Open and Design buttons are grayed (disabled). You obviously couldn't open or modify nonexistent tables.

7. Click on the Query, Form, and Report object buttons. Note that this database as yet contains no queries, forms, or reports, unlike the NWIND database you took a look at in the preceding lesson.

CREATING TABLES

After you've created a database, the next step is to create some tables so that you can enter your data. Here you'll be creating the table structure—spelling out which fields the table needs and selecting various properties for them. In the next lesson, you'll learn how to enter and edit your data into the tables you've created. These are the first two essential steps you must take when building a database.

There are two ways to create tables in Access: You can use the Table Wizard, an online helper designed to facilitate the process; or you can work in Table Design view, which requires a bit more effort on your part but gives you much greater control over the final results. It's particularly good to get acquainted with Table Design view, since this view allows you to modify the design of tables that you've created earlier. You'll learn both methods in this lesson.

CREATING TABLES WITH THE TABLE WIZARD

As mentioned, Access Wizards guide you through the process of creating an Access object by asking you questions and assembling the object based on your responses. Especially for novices, Wizards make it easy and unintimidating to create tables. Even if you're a more experienced user, Wizards are a quick way to create a rough table design, which you can always go back and modify in Table Design view (a process described under "Modifying the Table Design" later in this lesson).

CREATE A TABLE WITH THE TABLE WIZARD

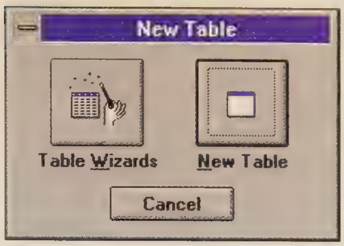
In this guided activity, you'll design Be Fruitful's customers table, which will include the names and addresses of the Be Fruitful customers. When you use a Wizard, Access prompts you for the needed information each step of the way. At any point in the table-creation process, you can click on the Back button to move back one step, and you can click on the Hint button to get additional information about the choices before you proceed.

1. With the FRUITFUL Database window still open, click on the Table object button (if necessary) and then click on the New button.

   Access shows you the New Table dialog box, with command buttons for New Table and Table Wizards, as shown in Figure 2-4.

FIGURE 2-4

If you choose the Table object button in the Database window and click on New, Access reveals this New Table dialog box. It's from here that you initiate the Table Wizard.



2. Click on the Table Wizards button.

   In a moment, you should see the initial Table Wizard dialog box displayed in Figure 2-5. Don't be overwhelmed by the number of options. This is simply a long selection of sample tables—and their accompanying fields—from which you can choose.

3. In the Sample Tables list box, click on the Customers table.

   Notice that the list of field names in the Sample Fields list box changes; now this list box includes sample fields that would be appropriate in a list of customers.

4. Noting that the CustomerID field name is selected in the Sample Fields list box, click on the > button to its right. This button permits you to add a single field at time to your new table.

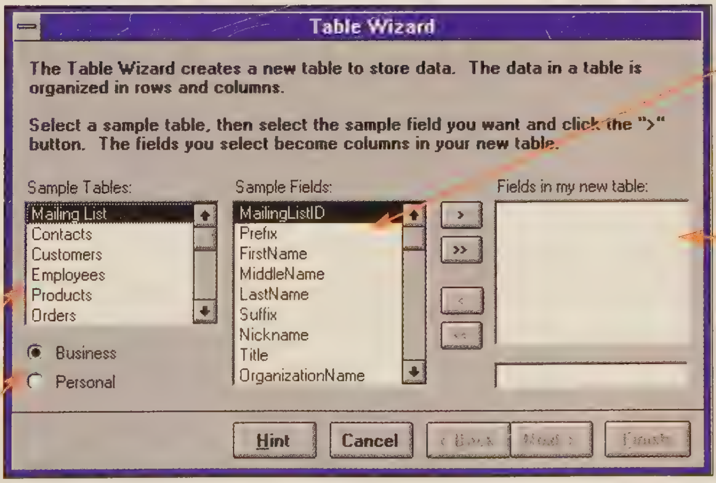
   Access lists the CustomerID field in the Fields In My New Table list box on the right side of the Table Wizard dialog box. Remember, the CustomerID field will be used to link customers and orders.

TIP

When selecting fields, keep in mind that fields appear in your table in the order in which they are listed in the Fields In My New Table list box. You can easily change the order of fields after the fact, as described in "Modifying the Table Design."

FIGURE 2-5

Choosing the Table Wizards button from the New Table dialog box takes you to this initial Table Wizard dialog box. Here you can choose which fields to include in your table.



The Table Wizard creates a new table to store data. The data in a table is organized in rows and columns.

Select a sample table, then select the sample field you want and click the ">" button. The fields you select become columns in your new table.

Choose fields from this list.

The fields for your new table will appear here.

Choose a sample table here.

Choose a category of table here.

5. Noting that the FirstName field in the Sample Fields list box is now selected, again click on the > button.

   The FirstName field should appear directly under CustomerID in the Fields In My New Table list box. Notice that Access places the added field below the field that was selected in the Fields In My New Table list box.

6. Note that the LastName field in the Sample Fields list box is selected, and click on the > button.

   Access adds the LastName field to the Fields In My New Table list box.

7. Double-click on the Address field in the Sample Fields list box.

   Access adds the Address field to the list on the right; double-clicking on one of the sample fields is a shortcut for placing that field name in the Fields In My New Table list box.

8. Add the fields City, State, PostalCode, PhoneNumber, FaxNumber, and Note, in that order. (You may have to scroll down in the Sample Fields list box to find all of these fields.)

   Access lists all the selected fields in the Fields In My New Table list box.

9. If you decide against including a particular field, just select it and click on the < button. In this case, select FaxNumber in the Fields In My New Table list box and click on the < button.

   Access promptly removes the FaxNumber field from the Fields In My New Table list box.

TIP *You also can click on the << button to remove all fields at once from the Fields In My New Table list box, and the >> button to add all fields at once to the Fields In My New Table list box.*

10. You can also change field names with ease. In the Fields In My New Table list box, select the PostalCode field.

    Notice that Access also lists the highlighted field name in the text box below, as shown in Figure 2-6.

11. In the text box, change “PostalCode” to **ZipCode** by using standard editing techniques (in other words, just type in the new characters and delete the old ones).

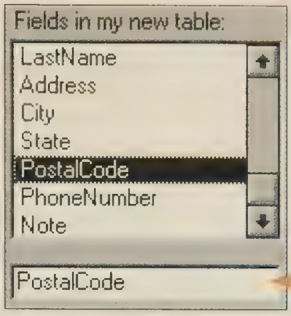
12. Since you’ve now selected the desired fields for your table, click on the Next button near the lower-right corner of the Table Wizard screen.

    You’ll see the Table Wizard screen shown in Figure 2-7, which lets you name your table and set the primary key.

13. Access suggests the name Customers for your table—the name of the sample table you selected. Click to the left of the letter C (this should deselect the table name and place the insertion point to the left of the letter C) and type **BF**

FIGURE 2-6

When you select a field in the Fields In My New Table list box, Access displays it in the text box below, as shown here. You can edit the field name in this text box.



Fields in my new table:

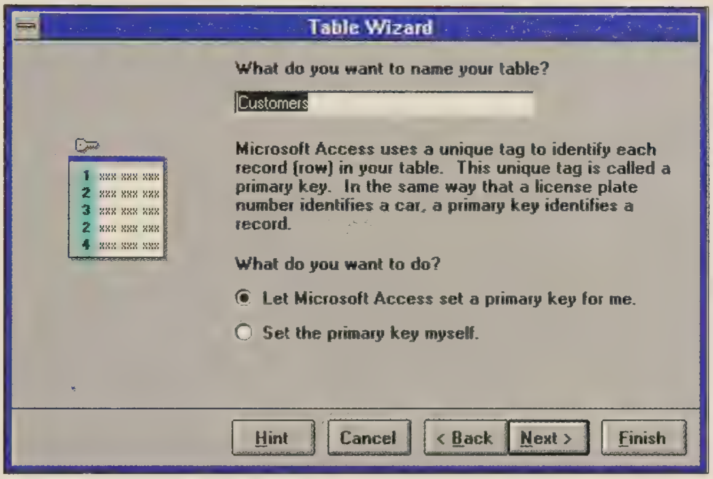
- LastName
- Address
- City
- State
- PostalCode
- PhoneNumber
- Note

PostalCode

You can edit the field name here.

FIGURE 2-7

Choosing the Next button in the first Table Wizard dialog box brings you to this Table Wizard screen. Here you can choose the name of your table; you can also decide whether to choose a primary key or to let Access choose one for you.



What do you want to name your table?

Customers

Microsoft Access uses a unique tag to identify each record (row) in your table. This unique tag is called a primary key. In the same way that a license plate number identifies a car, a primary key identifies a record.

What do you want to do?

● Let Microsoft Access set a primary key for me.

○ Set the primary key myself.

The entire table name should read "BFCustomers," indicating that this is the customers table for the Be Fruitful fruit-of-the-month club.

NOTE

Unlike database names, table names can be up to 64 characters long and can include spaces and most punctuation characters.

14. Click on the Set The Primary Key Myself option button and then click on Next.

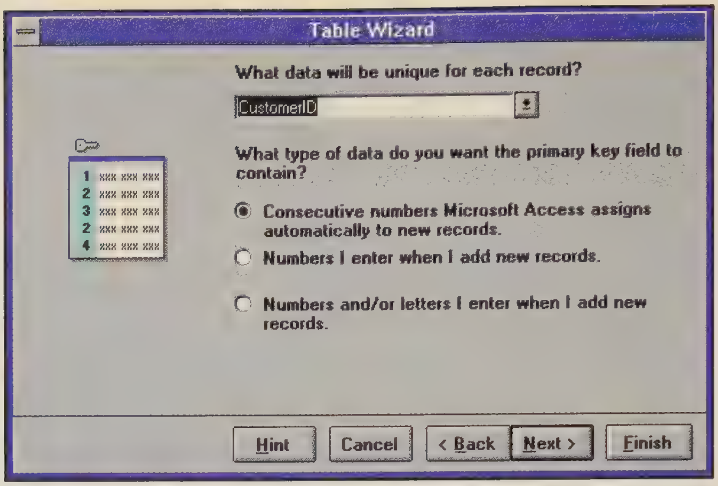
Access displays the Table Wizard dialog box shown in Figure 2-8. Remember, a primary key is a field or set of fields that uniquely identifies one record.

15. Notice that the option button Consecutive Numbers Microsoft Access Assigns Automatically To New Records is selected. (When you choose this option, Access provides the customer ID numbers, ensuring that you don't enter duplicate values in any customer ID field.) Click on the Next button.

Access displays the final Table Wizard dialog box—notice the finish-line flag—as shown in Figure 2-9.

FIGURE 2-8

This Table Wizard dialog box appears if you decide to choose the primary key yourself.



What data will be unique for each record?

CustomerID

What type of data do you want the primary key field to contain?

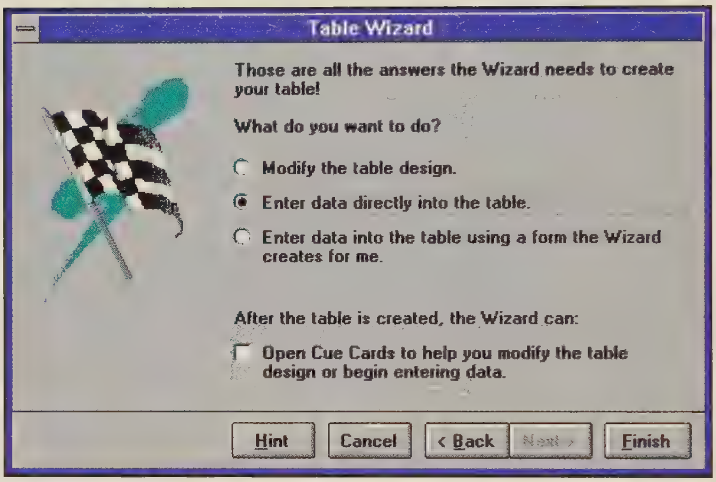
● Consecutive numbers Microsoft Access assigns automatically to new records.

○ Numbers I enter when I add new records.

○ Numbers and/or letters I enter when I add new records.

FIGURE 2-9

After you choose a type of primary key, Access displays this final Table Wizard dialog box. Now you can choose to modify the table design, enter data directly, or enter data using a form. You can also have Access display Cue Cards to help you along your way, no matter which route you take.



Those are all the answers the Wizard needs to create your table!

What do you want to do?

○ Modify the table design.

● Enter data directly into the table.

○ Enter data into the table using a form the Wizard creates for me.

After the table is created, the Wizard can:

☐ Open Cue Cards to help you modify the table design or begin entering data.

16. In this case, choose the option button Modify The Table Design and click on the Finish button.

    Access displays the BFCustomers table in Table Design view, as shown in Figure 2-10. (You'll learn how to work in Table Design view in a moment.)

17. For now, close the Table Design view window by double-clicking on its Control-menu box.

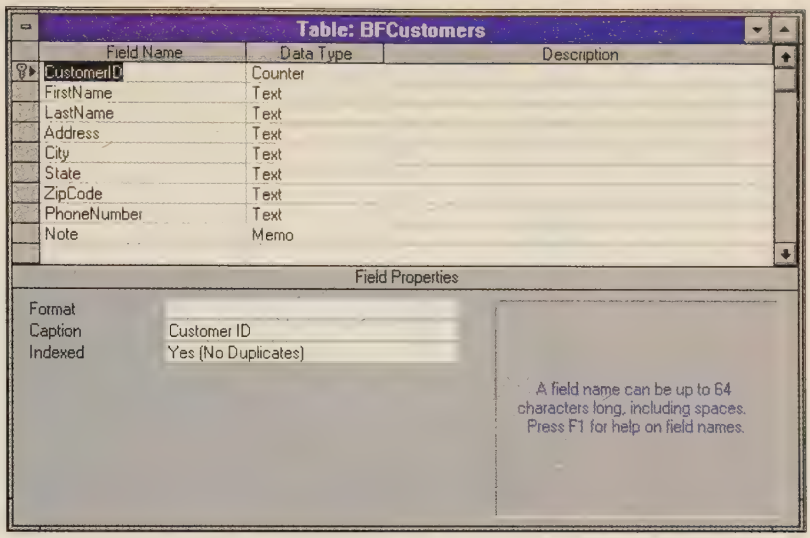
    Access returns you to the FRUITFUL Database window, which now includes the table BFCustomers.

NOTE

When you create any subsequent tables in a database, the Table Wizard displays an additional dialog box that asks whether the new table is related to any of the existing tables in the database. For now, if you come upon this dialog box, you should simply indicate that the tables are not related. You'll learn more about how to relate multiple tables in Lesson 7.

FIGURE 2-10

When you exit from the Table Wizard after having finished your table, you can choose to go into Table Design view, as shown here. This view lets you immediately make changes or refinements to the design of the table you just created.



Field Name	Data Type	Description
CustomerID	Counter	
FirstName	Text	
LastName	Text	
Address	Text	
City	Text	
State	Text	
ZipCode	Text	
PhoneNumber	Text	
Note	Memo	

Format
Caption: Customer ID
Indexed: Yes (No Duplicates)

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

CREATING TABLES IN TABLE DESIGN VIEW

Creating tables in the Table Wizard is a straightforward process, but the drawback is that you have little flexibility. Fortunately, you can also create tables in Table Design view, which gives you much more control over various field properties, including their size and the type of data they'll contain. Table Design view gives you a lot more leeway to build precisely the tables you need, and consequently provides you with quite a few more choices to mull over. Don't feel that you have to memorize all these choices instantly. There are only a few major decisions to make; you can consult the online Help system if you need additional information or prompting; and, as you'll discover, Table Design view itself provides quite a bit of explanatory text.

You can use Table Design view both to create tables from scratch and to modify existing tables, whether you created them in Table Design view or with the Table Wizard. Here you'll create a new table—the orders table for Be Fruitful's database. Later in this lesson, you'll make some modifications to the BFCustomers table in Table Design view.

TOUR TABLE DESIGN VIEW

In this guided activity, you'll open a new, empty table in Table Design view, so you can get acquainted with this new environment. Working in Table Design view is somewhat more involved than working with the Table Wizard, but not by much. Here you'll create a single field in the orders table for Be Fruitful's database to get a feel for the process. After that, you'll learn a bit more about the various aspects of fields before you go on to complete the table.

1. Make sure the Table option button in the FRUITFUL Database window is selected, click on the New button, and then choose the New Table button.

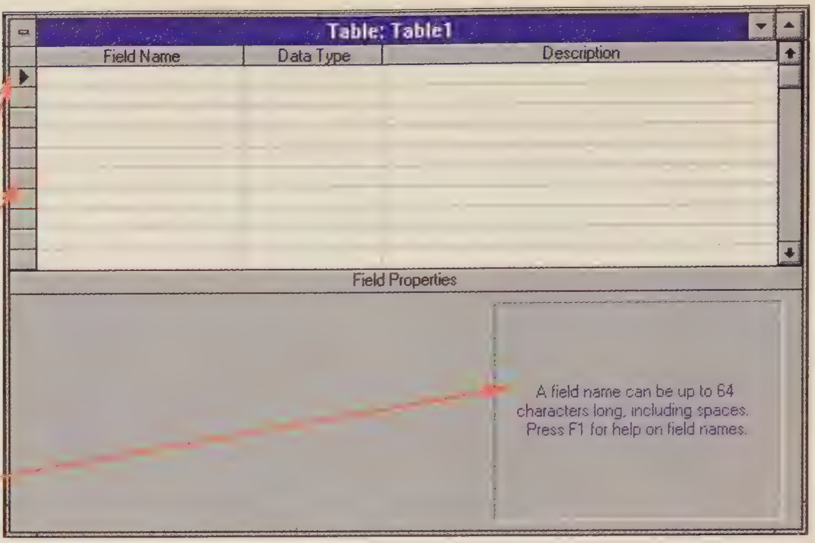
   Access opens an empty table in Table Design view, as shown in Figure 2-11.

FIGURE 2-11

Choosing the New Table button from the New Table dialog box opens an empty table, like the one shown here, in Table Design view.

Field selectors—click here to select the field.

Helpful information about the selected item



A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

2. Notice that the insertion point (the flashing vertical line) is in the Field Name column. Read the information in the lower-right corner of the window, which describes field names. In Access, field names can be up to 64 characters long, and can include letters, numbers, spaces, and most punctuation characters.

3. Enter the field name **CustomerID** in the Field Name column and press Tab to move over to the Data Type column.

   Access activates the Data Type column, displaying the default data type Text as well as an arrow that provides you with access to a number of other choices. Notice that the information in the lower-right corner of the window now describes data types.

TIP

It's easier to perform calculations if your field names don't include spaces.

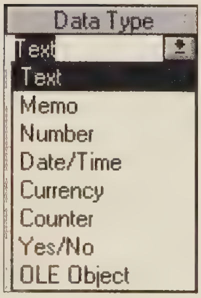
4. Click on the downward-pointing arrow in the Data Type column.

   Access reveals a drop-down list box displaying eight available data types, as shown in Figure 2-12. (You'll learn more about data types in a moment.)

5. Click on the Number data type and then press Tab to move to the Description field. You can enter a description of up to 255 characters for each field.

FIGURE 2-12

Move to the Data Type column and then click on the downward-pointing arrow on the right end of the column to display this list of available data types.



Access displays some information about field descriptions in the lower-right corner of the Table Design window.

6. Type the text **Enter same customer ID used in BFCustomers table** and then press Tab.

   Access moves the insertion point down to the next row; now you can enter the specifications for another field.

7. For the moment, press Shift+Tab or click anywhere in the CustomerID field to move back up to that field.
8. Take a look at the lower half of the Table Design view screen, the Field Properties area. It lists the field size as well as a number of other **properties**, or characteristics, of the current field, as shown in Figure 2-13. You'll learn more about several of these properties shortly, under "Setting Other Field Properties."
9. Press F6 to move down to the Field Properties area of the dialog box; then press F6 again, noting that this moves you back to the upper portion of the Table Design view window.

You'll enter additional fields a little bit later, after you learn more of the details about some of the field properties you've just encountered.

NOTE

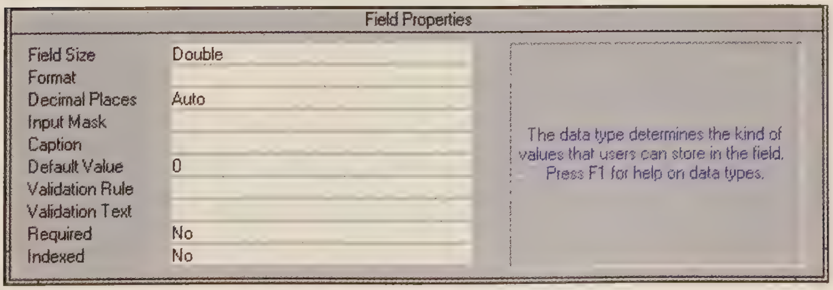
As you learned in the previous lesson, fields in Access fields are arranged into columns and records are organized into rows. For this reason, you may find the layout of Table Design view a bit puzzling, since the information for a single field is laid out in a row rather than a column. It may help to keep in mind that—in Table Design view—you're entering the information describing the field, rather than the actual field data. Field data is indeed arranged into columns in your tables, as you'll see firsthand in the next lesson.

SELECTING DATA TYPES

As you've probably guessed, a **data type** is simply a stipulation about what type of data can be entered into a field. For example, if you assign the Number data type to a field, you can't enter letters into that field. When you choose fields in the Table Wizard, Access assigns them data types automatically. When you work in Table Design view, in contrast, you need to make these decisions yourself. Most of the selections are fairly intuitive, and there are only eight data types, so you'll learn them quickly.

FIGURE 2-13

Depending on the data type of the selected field, you'll see a different set of properties at the bottom of the Table Design view display. Here is the list of field properties you see when a Number field is selected.



Field Properties

Field Size	Double
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

- **Text fields** can hold up to 255 characters, including letters, numbers, and punctuation marks. You can use the Text data type for fields that will contain numbers on which you don't need to perform calculations, and you *should* use the text data type for fields that will contain both numbers and some type of punctuation characters, such as phone-number or Social Security fields.
- **Memo fields** can contain up to 64,000 letters, numbers, and punctuation marks. Use this data type when you need to enter longer amounts of text such as free-form comments or fairly lengthy descriptions.
- **Number fields** can only include digits, the decimal point, and the minus sign. Use this data type for fields that will only contain numbers, and in particular for numbers on which you want to perform calculations—examples would be quantity or discount fields. As mentioned, you don't need to use the Number data type for numbers that won't be used in calculations, such as ZIP codes, and you *must not* use this data type for numbers that will include punctuation marks, such as phone numbers. (Instead, use the Text data type.) You can actually choose from five different types of Number fields, depending on the type and size of numbers you want to store, as you'll learn in the next section.
- **Date/Time fields** are for storing dates and times. You could always enter these values in a Text field, but when you use the Date/Time data type, Access prevents you from entering invalid dates or times such as 2/31/95 or 34:35. Other benefits are that Access supplies a number of different display formats for dates and times and lets you sort dates and times into chronological order. Finally, when you use Date/Time fields, you can perform date arithmetic—subtracting one date from another to determine the number of days between them, or adding or subtracting a specified number of days to or from a date to calculate a later or earlier date.
- **Currency fields** are for storing numeric values, such as salaries or prices, that you want displayed with a currency symbol, a decimal point, and separators (usually commas) every three digits.
- **Counter fields** store numbers that begin with 1 and that Access increments by 1 automatically with each new record added to the table. You cannot edit the values in these fields, since they are generated automatically by Access. Counter fields can be used as primary keys, since the value for each record will always be unique.
- **Yes/No fields** can accept only one of two logical values. Usually the responses are shown as either Yes or No, but they can also be displayed as True or False, or On or Off.
- **OLE Object fields** are for holding nontext objects such as pictures, graphs, and sounds that have been created in other programs. The use of OLE Object fields is beyond the scope of this book; if you're interested in the topic, refer to your Access documentation.

PICKING FIELD SIZES

For many data types, including Yes/No and Date/Time, Access sets the field size automatically. For Text and Number fields, however, you need to make a decision about the field size. As you learned earlier, Text fields can be anywhere from 0 to 255 characters long; you determine the size simply by clicking in the Field Size text box in the Field Properties area and entering the desired value. The number you enter determines the maximum number of characters that will fit in the field.

TIP *When you create tables with the Table Wizard or in Table Design view, the default sizes for Text fields are usually rather high. It's a good idea to decrease the sizes of such fields, using only as many characters as you need. Among other things, this can help ensure that correct values are entered; as an example, specifying a field size of two characters will prevent users from unintentionally entering three-digit state codes.*

For Number fields, in contrast, you can choose one of the following five number types:

- The **Byte** number type lets you store whole numbers from 0 to 255. You can't enter fractional values in such fields.
- The **Integer** number type lets you store whole number from –32,768 to 32,768. Again, you can't enter fractional values in these types of fields.
- The **Long Integer** number type lets you store whole numbers from roughly –2 billion to 2 billion. (Note that Counter fields actually have the Long Integer number type.)
- The **Single** number type lets you store real numbers (fractional values allowed) with six digits of precision.
- The **Double** number type lets you store real numbers (fractional values allowed) with ten digits of precision.

SETTING OTHER FIELD PROPERTIES

In the Field Properties area at the bottom of the Table Design view display, Access presents various text boxes—which ones depends on the data type of the selected field—that enable you to change a range of properties associated with the current field. One such property is field size, as discussed earlier. There are a number of other properties, a few of which you'll learn about here.

- **Format.** Access provides a number of predefined formats for Number and Date/Time fields, among others. For example, you can choose the Percent format to display numbers as percentages, and you can choose the Medium Date format to display dates in the format *dd-mmm-yy* (as in 19-Jun-96).
- **Decimal places.** If you choose the Number or Currency data type, Access permits you to stipulate the number of decimal places displayed.

- **Input mask**. If you choose the Text, Number, Date/Time, or Currency data type, Access enables you to create an **input mask** to ensure that a particular format is applied to the data in that field. For example, you could create an input mask to guarantee that all Social Security numbers matched the format ###-##-####, or that all phone numbers were in the form ###-###-####.
- **Caption**. If you have long or otherwise unwieldy field names, you may want to enter captions for certain fields. These captions are used as column headings in tables and as field labels in forms. (You can enter two-word captions such as First Name when you have single-word field names such as FirstName.) If you leave the caption property blank, the field names themselves are used as labels.
- **Default value**. Typing a value in the Default Value text box instructs Access to automatically enter that value in this field for new records. For instance, if you have a Yes/No field in which 90 percent of your records contain a Yes response, you can save yourself and others some time by giving the field a default value of Yes. Other examples are default state codes if most of your employees live in a certain state, and default quantities if the majority of your customers order the same number of items.
- **Required**. No is the default here. Choosing Yes stipulates that the field must be filled in.

If you're curious about some of the field properties not mentioned here, highlight them and read the descriptions in the lower-right corner of the screen, press F1 to bring up relevant Help screens, or consult the Access documentation.

COMPLETE THE ORDERS TABLE

Now that you've rounded out your knowledge of some of the basic field properties, you're ready to complete Be Fruitful's orders table in Table Design view. As in the Table Wizard, the order of fields in the Table Design view determines their order in the table itself. So, optimally, you'll enter fields in the desired order. But the order of fields is also easy enough to change after the fact, as you'll discover under "Modifying the Table Design."

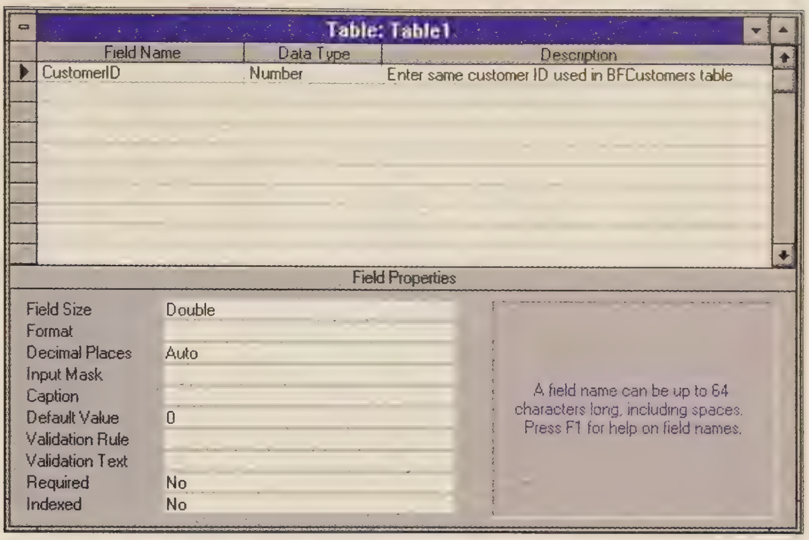
1. Make sure the orders table you began creating is still open in Table Design view and the insertion point is somewhere within the CustomerID field.

   At this point, your table design should resemble the one shown in Figure 2-14.

2. Click on the Field Size text box in the Field Properties area, display the drop-down list box by clicking on the downward-pointing arrow, and choose the Long Integer number type. (Now this field will match up with the CustomerID field in the BFCustomers table, which is a Counter field.)

FIGURE 2-14

After you've defined the first field in your orders table, the Table Design view should look like the one shown here.



Field Name	Data Type	Description
CustomerID	Number	Enter same customer ID used in BFCustomers table

Field Properties

Field Size	Double
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

3. Click directly below the field name CustomerID, enter the field name **OrderDate**, and press Tab.

   Access moves you to the Data Type column, automatically selecting the Text data type.

4. Click on the downward-pointing arrow at the right end of the Data Type drop-down list box.

   Access displays the list of available data types.

5. Click on Date/Time.

   Access closes the drop-down list box and displays Date/Time in the Data Type column to indicate that this data type is selected.

6. Press Tab twice to move down to the next row so you can define a new field.

7. Enter **FruitType** as the field name and press Tab.

   Access moves you to the Data Type column, automatically selecting the Text data type.

8. In this case, you can accept the default data type of Text, but you need to change the field size. Press F6.

   Access moves you to the Field Size text box under Field Properties.

9. Enter 20 as the field size, press F6 again to return to your previous location in the Data Type column for the FruitType field, and press Tab twice to move down to the next row.

10. Enter **Quantity** as the field name and press Tab.

    Access moves you to the Data Type column.

11. Type **n**, noting that this is a quick way to choose the Number data type.

12. Click on Field Size in the Field Properties area, click on the downward-pointing arrow on the right end of the Field Size text box, and click on the Integer number type.

13. Click in the Default Value text box in the Field Properties area, delete the 0, and enter **1** as the default quantity.

14. Click directly below the field name Quantity in preparation for defining another field.

15. Enter the field name **Price**, choose the data type Currency, and press Tab twice to move down to the next field.

16. Enter the field name **ShippingAmt**, choose the data type Currency, and press Tab twice to move down to the next field.

17. Enter the field name **PmtDate**, choose the data type Date/Time, and press Tab twice to move on to the next field.

18. Enter the field name **PmtAmt**, choose the data type Currency, and press Tab twice to go to the next field.

19. Enter the field name **PmtType** and leave the data type Text selected.

20. Press F6 to edit the field properties, and enter a new field size of **15** for the PmtType field.

21. Click directly below the field name PmtType and enter the field name **Reference**

22. Press Tab to move to the Data Type column, accept the Text data type, and change the field size of the Reference field to **25**

23. Click in the Description column for the Reference field and type **Enter check or credit card number**

24. Now all that's left is to set the primary key to uniquely identify each record in your table. Place your mouse pointer over the field selector to the left of the CustomerID field, press and *hold down* the mouse button, and drag down to also select the OrderDate field. In this case, you need to select both fields as the primary key; selecting just the CustomerID field wouldn't work, since there may be many order records for the same customer.

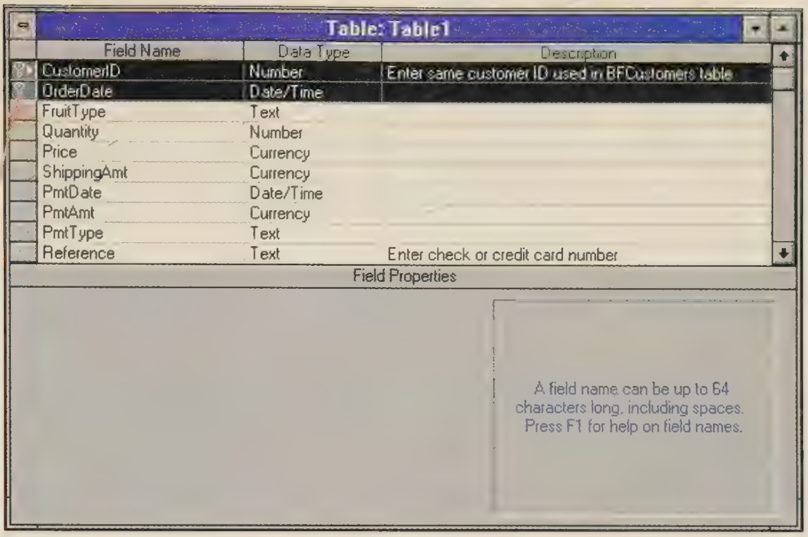
    Access highlights the CustomerID and OrderDate fields.

TIP *The* ***field selector*** *is the small box to the left of a field. Clicking on this box selects the entire field; you can select multiple fields by dragging over their field selectors.*

25. Choose Edit, Set Primary Key or click on the Set Primary Key toolbar button.

    Access places small key-shaped icons in the field selectors for the CustomerID and OrderDate fields, as shown in Figure 2-15.

You've completed the structure for the orders table, but there is one more step: You need to save this table design so you can use it in the future.



Field Name	Data Type	Description
CustomerID	Number	Enter same customer ID used in BFCustomers table
OrderDate	Date/Time	
FruitType	Text	
Quantity	Number	
Price	Currency	
ShippingAmt	Currency	
PmtDate	Date/Time	
PmtAmt	Currency	
PmtType	Text	
Reference	Text	Enter check or credit card number

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Primary key

FIGURE 2-15

You set the primary key by selecting the field(s) in question and clicking on the Set Primary Key toolbar button or choosing Edit, Set Primary Key. Key-shaped icons will appear in the field selector of the primary key field(s), as shown here.

SAVING THE TABLE DESIGN

As you probably know, **saving** is the process of taking information from your computer's memory and storing it on a more permanent medium—usually a floppy disk or a hard drive. You can retrieve tables that you have saved, but if you haven't saved your work and, for example, there's a power failure or someone happens to kick your power cord, you're out of luck. Everything is cleared from your computer's memory and you'll have to re-create your table from scratch—probably a far-from-appealing prospect.

NOTE

When you save a table, it's not placed in a file of its own but is instead stored in the file of the associated database, which has an .MDB extension. For example, both the BFCustomers table you created earlier and the orders table you just created will be stored in the FRUITFUL.MDB file. The same is true of other Access objects; whether they're forms, reports, or queries, they're all stored in the associated database file.

When you create tables with the Table Wizard, Access saves them automatically using the table name that you supply. When you create or modify tables in Table Design view, in contrast, you need to explicitly instruct Access to save the table, much as you need to save documents you create using your word processing program.

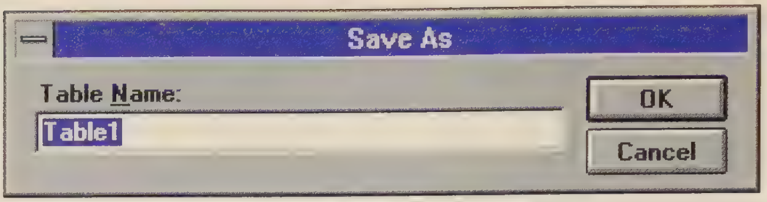
SAVE THE ORDERS TABLE

Now you'll save Be Fruitful's orders table so you can change its design later if necessary, and, equally important, so you can enter data into it in the next lesson.

1. Choose File, Save or click on the Save toolbar button.

   Access displays the Save As dialog box shown in Figure 2-16; this is where you enter a file name for your table.

FIGURE 2-16
Access displays this Save As dialog box when you choose File, Save or click on the Save toolbar button for the first time.



2. Enter **BFOrders** in the Table Name text box and click on OK.

   Access returns you to Table Design view, and your table design is still visible. Note, however, that the table name BFOrders is now displayed in the Title bar. This is your indication that the file has been saved.

3. Double-click on the Control-menu box in Table Design view.

   Access closes the BFOrders table and returns you to the Database window for the FRUITFUL database.

If you attempt to close a table design that includes unsaved changes, Access displays the dialog box shown in Figure 2-17, asking whether you want to save your changes. Choose Yes to save the changes, No to discard them, Cancel to cancel the operation and return to Table Design view, or Help to get online help with the Save operation.

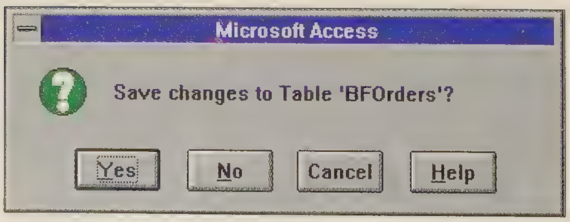
When you use the Save command to save a table for the first time, Access requests a table name. When you update your table design and save it again, the modified table is simply saved under the same name, so Access has no need to prompt you for a new file name. If for some reason you want to save a copy of the table under a new name, however, you can do so by using the Save As command on the File menu.

MODIFYING THE TABLE DESIGN

Whether you've put together your table design with the Table Wizard or you've braved the world of Table Design view, at some point you'll undoubtedly need to make changes to the structure of your table. You might need to change field names or data types, to add a field you left out, to get rid of a field you realize you no longer need, or in general to reshuffle your fields to better suit your needs or your sense of order.

Since you've already learned your way around Table Design view, it will be that much easier to make modifications to your table design. In many cases, the process is almost identical to creating your table initially in Table Design view. For example, if you decide to change a field's name, data type,

FIGURE 2-17
If you attempt to close a table design that includes unsaved changes, Access displays this dialog box.



Save changes to Table 'BFOrders'?

or size, you simply return to Table Design view; move to the appropriate text box or drop-down list box; and enter a new field name, select a new data type, or pick a new field size. When you're adding, removing, or rearranging fields, the process is somewhat different, although it's not particularly difficult, as you'll learn here.

WARNING *You can change the table structure after you've entered data into the table, but proceed with caution if you do. You run the risk of loosing or unintentionally modifying your data.*

FINE-TUNE THE BFCUSTOMERS TABLE

In this guided activity, you'll modify the BFCustomers table that you created earlier in this lesson. Among other things, you'll add a few new fields, remove a field, and switch the order of two fields. These fundamental skills will serve you well when it's time to refine the design of any table, no matter how simple or complex.

1. In the FRUITFUL Database window, click on the BFCustomers table and then click on the Design button.

   You'll see the BFCustomers table in Table Design view, as shown in Figure 2-18.

2. Click directly below the field name Note and enter **ExtraCatalogs**

   To add a new field at the end of the table structure, you can just go to the bottom of the display and enter the information for the new field.

3. Press [Tab] to move to the Data Type column, and then type y to select the Yes/No data type.

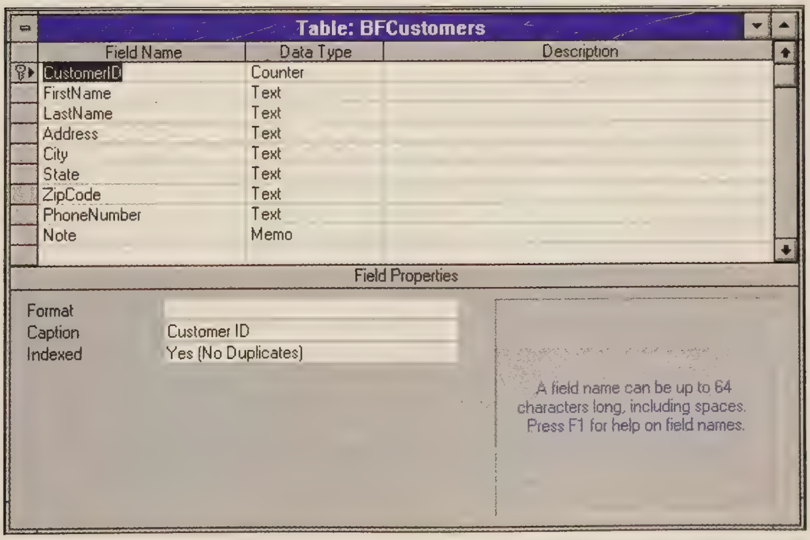


Table: BFCustomers

Field Name	Data Type	Description
CustomerID	Counter	
FirstName	Text	
LastName	Text	
Address	Text	
City	Text	
State	Text	
ZipCode	Text	
PhoneNumber	Text	
Note	Memo	

Field Properties

Format
Caption Customer ID
Indexed Yes (No Duplicates)

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

FIGURE 2-18

To open the BFCustomers table in Table Design view, select BFCustomers in the FRUITFUL Database window and then click on the Design button.

4. Press Tab once more to move to the Description column and type **Offers for holiday specials, exotic fruits, and more**

5. Click in the Caption text box in the Field Properties area and enter the caption **Extra Catalogs**

6. Click anywhere within the ZIPCode field, click in the Caption text box for that field, and enter the caption **ZIP Code**

7. Click anywhere within the row for the Note field and then choose Edit, Insert Row or click on the Insert Row toolbar button.

   Notice how Access adds a blank row above the Note field, placing the insertion point within this row. You use this technique to insert new rows within *the table structure rather than at the end of the table structure.*

8. Type **DateJoined**, press Tab, and then choose the Date/Time data type. Enter the caption **Date Joined** for this field.

9. Click anywhere within the Note field and then choose Edit, Delete Row or press the Delete Row toolbar button.

   Access deletes the current row—in this case, the Note field.

10. Now you realize that you actually need to retain the Note field. Simply choose Edit, Undo Delete or click on the Undo toolbar button.

    Access restores the Note field.

WARNING

You can take advantage of the Undo command only if you act quickly enough. Choosing Undo generally undoes your most recent action only, whether you deleted a row, moved a row, typed some text, or chose a new data type. If you've done something else in the interim, however, such as deleting another field or typing some text, you won't be able to undo your earlier action.

11. Now suppose you decide to change the location of the FirstName field in the table. (Remember, the order of fields in Table Design view determines their order in the table itself.) Click on the field selector for the FirstName field.

    Access highlights the entire row, as shown in Figure 2-19.

12. Place your mouse pointer directly over the field selector for the selected row and then drag downward.

    Access attaches a small grayed rectangle to the bottom of the mouse pointer, and also displays a dark horizontal line below the row that the selected field will occupy if you release the mouse button.

13. Drag downward until the dark horizontal line appears just below the LastName field, as shown in Figure 2-20.

FIGURE 2-19

Clicking on a field selector selects the entire field, as shown here. You usually do this in preparation for changing the field in some way.

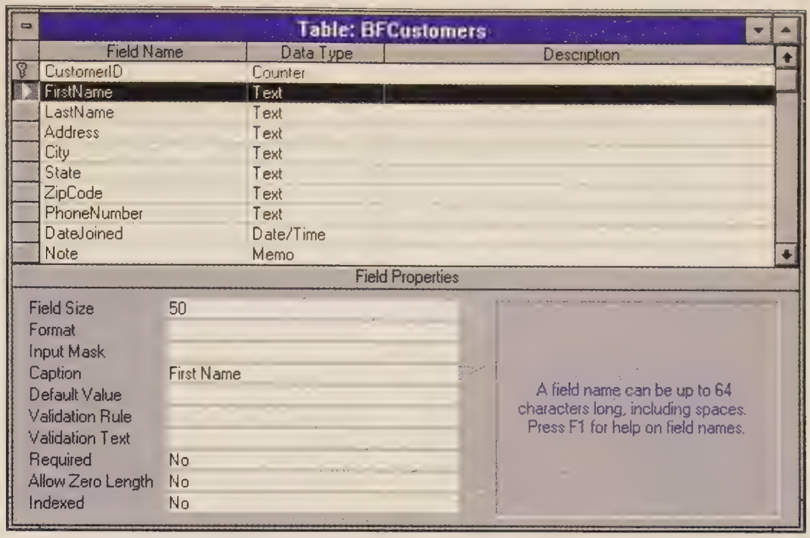


Table: BFCustomers

Field Name	Data Type	Description
CustomerID	Counter	
FirstName	Text	
LastName	Text	
Address	Text	
City	Text	
State	Text	
ZipCode	Text	
PhoneNumber	Text	
DateJoined	Date/Time	
Note	Memo	

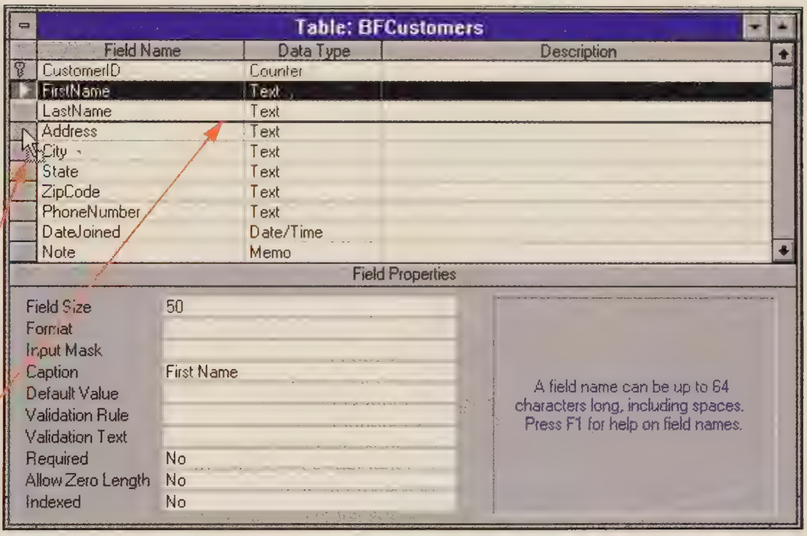
Field Properties

Field Size	50
Format	
Input Mask	
Caption	First Name
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	No

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

FIGURE 2-20

You can drag the field selector of a selected field to change that field's position in the table. Here the field being moved will be placed in the current location of the LastName field.



Mouse pointer indicating that field is being moved

Line indicating where field will be placed

Table: BFCustomers

Field Name	Data Type	Description
CustomerID	Counter	
FirstName	Text	
LastName	Text	
Address	Text	
City	Text	
State	Text	
ZipCode	Text	
PhoneNumber	Text	
DateJoined	Date/Time	
Note	Memo	

Field Properties

Field Size	50
Format	
Input Mask	
Caption	First Name
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	No

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

14. Release the mouse button to relocate the field—in this case, placing the FirstName field after the LastName field in the table.

Access moves the field to its new location in the table, as shown in Figure 2-21. You can even move several adjacent fields by using this method, if you like.

15. Change the field size of the FirstName field to 30. Do the same for the LastName field.

16. Change the size of the Address field to 50, change the size of the City field to 30, and change the size of the State field to 2

17. Finally, change the name of the Note field to Notes. In that field's Description column, enter **List preferences, allergies, and shipping notes**

18. Now that you're through making modifications to the BFCustomers table, you need to save it again to preserve your changes. Choose File, Save or click on the Save toolbar button.

Since you named and saved this table earlier, Access saves the updated table without first prompting you for a table name.

19. Close the BFCustomers table, but don't close the FRUITFUL database or exit from Access. This way you can perform the application projects at the end of the chapter—a good strategy if you want to follow the exercises throughout this tutorial.

TIP

If you don't complete all the application projects, you can always retrieve the requested objects from the FRUITFUL database on the Student Data Disk.

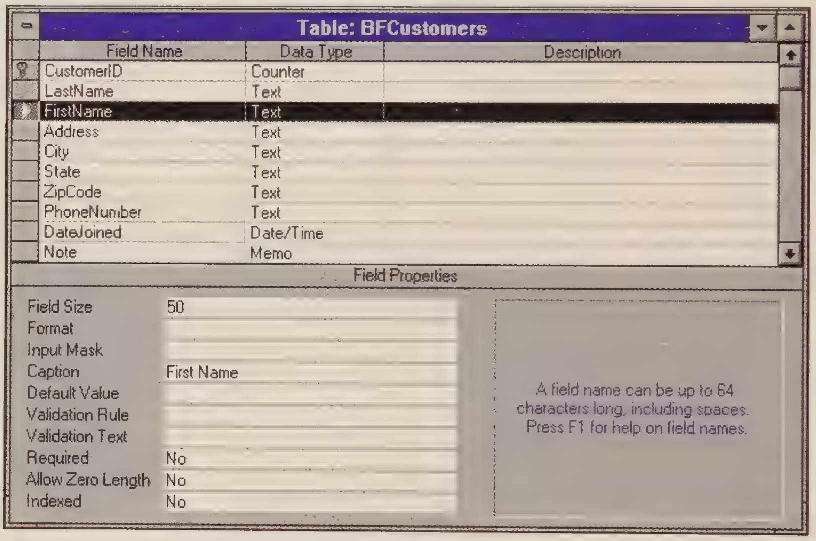


Table: BFCustomers

Field Name	Data Type	Description
CustomerID	Counter	
LastName	Text	
FirstName	Text	
Address	Text	
City	Text	
State	Text	
ZipCode	Text	
PhoneNumber	Text	
DateJoined	Date/Time	
Note	Memo	

Field Properties

Field Size	50
Format	
Input Mask	
Caption	First Name
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	No

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

FIGURE 2-21
You can drag on the field selector of the FirstName field to place this field after the LastName field in the table structure.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Open New Database dialog box	Choose File, New Database	Ctrl+n	🗋
Move to next column in Table Design view	Click in desired column	Tab	
Move to previous column in Table Design view	Click in desired column	Shift+Tab	
Switch to and from Field Properties area in Table Design view	Click in desired area of Table Design view	F6	
Select field (row) in Table Design view	Click on field selector		
Set primary key	Select desired field or fields and choose Edit, Set Primary Key	Alt+e, s	🔑
Save table design	Choose File, Save	Ctrl+s	💾
Save table design under new name	Choose File, Save As	Alt+f, a	
Insert row (field) in Table Design view	Choose Edit, Insert Row	Alt+e, i	⊞
Delete row (field) in Table Design view	Choose Edit, Delete Row	Alt+e, d	⊟
Undo previous action	Choose Edit, Undo	Ctrl+z	↶

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS	DEFINITIONS
1. Primary key	**a.** Table Wizard button for getting additional assistance
2. Input mask	**b.** Data type to use for numbers on which you need to perform calculations
3. OLE Object	**c.** Value that Access enters into field automatically
4. Field selector	**d.** Feature that enables you to reverse your previous action
5. Counter field	**e.** Field of same name in two tables that enables you to link those tables together
6. Date/Time	**f.** Data type that you assign to fields in which you want to place nontext object from another program
7. Default value	**g.** Data type that enables you to perform date arithmetic
8. Undo	**h.** Field property that forces your data into particular format
9. Hint button	**i.** Field that Access increments by 1 for each new record
10. Common field	**j.** Box that you click on to select row (field) in Table Design view
11. Number	**k.** Field or fields that uniquely identify each record in table

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. A primary key is:

- **a.** One or more fields that uniquely identify each record in your table
- **b.** A quick way of getting into the database
- **c.** A means of sorting your data into alphabetical order
- **d.** Summary information about the data in a table

2. One thing you *can't* do when creating a table with the Table Wizard is:

- **a.** Change field names.
- **b.** Select the primary key.
- **c.** Specify field widths/sizes.
- **d.** Choose the order of your fields.

3. If you want to be able to relate two tables together, they must:

- **a.** Have a common data type
- **b.** Have a common field
- **c.** Have the same primary keys
- **d.** Have the same number of fields

4. One reason to limit the size of Text fields is to:

- **a.** Save storage space.
- **b.** Limit entries to the specified number of characters.
- **c.** Save Access from having to adjust the fields itself.
- **d.** Speed up data entry.

5. To specify that a field must be filled in, you set this property to Yes:

- **a.** Format
- **b.** Indexed
- **c.** Required
- **d.** Default value

6. A single table should not include:

- **a.** Fields that relate to different subjects
- **b.** More than 64 fields
- **c.** Too many fields
- **d.** Fields that will be used only rarely

7. Data that you need to use in a report:

- **a.** Must be in the same table
- **b.** Must not appear in any other report
- **c.** Needn't be included in your tables
- **d.** Can come from different tables

8. Database names:

- **a.** Must be under 64 characters long
- **b.** Must not include digits
- **c.** Must conform to DOS file-naming conventions
- **d.** Must not include a file-name extension

9. The purpose of an input mask is to:

- **a.** Hide your data from view
- **b.** Format your data in a particular way
- **c.** Force you to enter data of a particular data type
- **d.** Make sure you enter valid data

10. When it's time to create your database, the best approach is to:

- **a.** Write notes on what the database should do, what items of information (fields) it should contain, and how these fields should be broken down into tables.
- **b.** Plunge right in, creating a database, some tables, and entering your data so you can get a feel for the process.
- **c.** Read several books on database design.
- **d.** Consult the Access online help system.

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. What must two tables share for you to be able to link them together?
2. List at least two reasons for dividing your data into multiple tables instead of placing it all in one very large table.
3. Mention at least one advantage of creating tables using the Table Wizard; then list at least one disadvantage.
4. Describe one or two reasons why you'd use a Date/Time field rather than a Text field for dates.
5. Which data type would you use for Social Security numbers and why?
6. Explain why you can't enter duplicate values in primary-key fields.
7. Under what circumstances would you use a Memo data type rather than a Text data type?

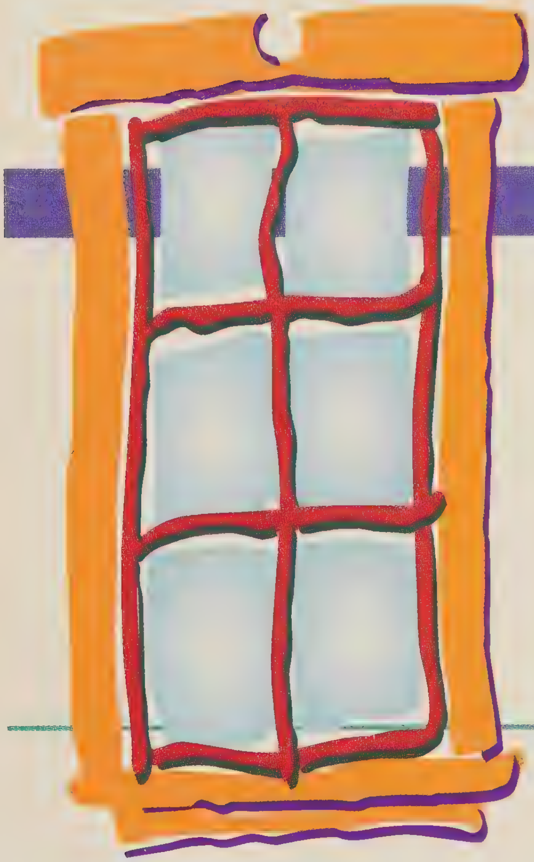
APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Make sure the FRUITFUL database is open, and then create a table with the Table Wizard. Base your new table on the Employees sample table. Add the fields FirstName, LastName, Address, City, State, and PostalCode. Retain the suggested table name of Employees and let Access create the primary key for you. Indicate that this new table is not related to any of the existing tables in the FRUITFUL database by

performing the following steps: Click on the Change button, select the option button The Tables Aren't Related, and then click on OK. In the final Table Wizard dialog box, choose the option button Modify The Table Design and click on Finish to view the newly created table in Table Design view. Notice the primary key. Why do you think Access *added* a field to be used as a primary key rather than using one of the existing fields? Why was the Counter data type used for the added primary-key field? Close the table when you're done. Then select the Employees table in the Database window; choose Edit, Delete; and click on OK to delete the table.

2. Using Table Design view, create a table structure that includes the fields FruitType, Price, and DescripUnits. The FruitType field should have the data type Text and a field size of 20; the Price field should have the data type Currency; and the DescripUnits field should have the data type Text and a field size of 40. In the Description column for the field DescripUnits, enter **Number of units for fruit type—e.g., 1 dozen, 2 pints, etc.** Make the FruitType field into the primary key and save the table, naming it **BFFruits**. Think about why the FruitType field is the primary key in this table, even though it is not the primary key in the BFOrders table. It's a good idea to create this table so you can follow along with the exercises in later lessons. (But if not, you can always retrieve it from the FRUITFUL database on the Student Data Disk.)



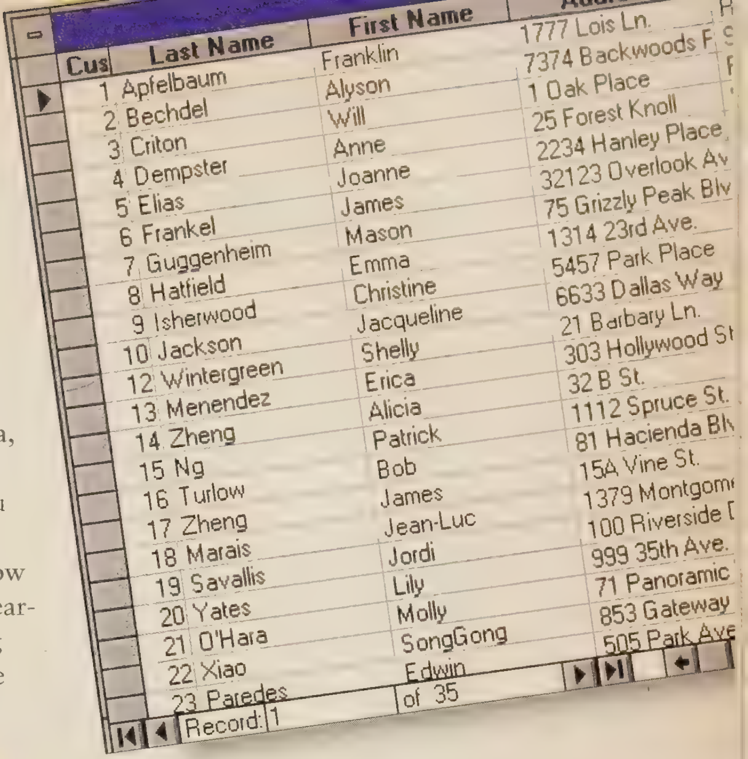
LESSON 3

ADDING AND MAINTAINING DATA IN DATASHEET VIEW

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Add data to your tables by using the datasheet.*
- *Retrieve some data from the Student Data Disk.*
- *Navigate through the datasheet.*
- *Select fields, columns, and records.*
- *Edit records.*
- *Delete records.*
- *Undo changes.*
- *Search for and replace particular strings of characters.*
- *Change column widths and row heights in the datasheet.*
- *Rearrange datasheet columns.*
- *Freeze datasheet columns.*



Cus	Last Name	First Name	
1	Apfelbaum	Franklin	1777 Lois Ln.
2	Bechdel	Alyson	7374 Backwoods F
3	Criton	Will	1 Oak Place
4	Dempster	Anne	25 Forest Knoll
5	Elias	Joanne	2234 Hanley Place
6	Frankel	James	32123 Overlook Av
7	Guggenheim	Mason	75 Grizzly Peak Blv
8	Hatfield	Emma	1314 23rd Ave.
9	Isherwood	Christine	5457 Park Place
10	Jackson	Jacqueline	6633 Dallas Way
12	Wintergreen	Shelly	21 Barbary Ln.
13	Menendez	Erica	303 Hollywood St
14	Zheng	Alicia	32 B St.
15	Ng	Patrick	1112 Spruce St.
16	Turlow	Bob	81 Hacienda Blv
17	Zheng	James	15A Vine St.
18	Marais	Jean-Luc	1379 Montgom
19	Savallis	Jordi	100 Riverside
20	Yates	Lily	999 35th Ave.
21	O'Hara	Molly	71 Panoramic
22	Xiao	SongGong	853 Gateway
23	Paredes	Edwin	505 Park Ave

This chapter explains how to enter data into the tables you created in the previous lesson. You also discover how to navigate through your data, how to select varying amounts of data, and how to make changes to your data. Along the way, you find out how to modify your view of the data—changing row heights and column widths, rearranging columns, and freezing columns into place so they are always in view.

ADDING AND EDITING DATA

In Lesson 2, you spent a great deal of time creating tables. What you were doing was building table *structures*—choosing which fields your tables would include and what their properties would be. Now that these structures are in place, you're ready to actually enter data into them. You can add data to your tables by using custom forms, which you'll learn more about in Lesson 5. However, Access also provides the **datasheet**, a tabular layout of rows and columns that permits you to start adding, editing, and viewing your data immediately, without distractions or delay. The datasheet's column-and-row format should be reminiscent of a spreadsheet, if you've ever used one.

NOTE

Even if you devise custom forms for data entry, the datasheet is still useful for browsing through a large number of records at once, making minor additions and modifications as you go along.

In this lesson, you'll get to know the datasheet. First, you will discover how to enter data in the Datasheet view; you'll also retrieve additional data from the Student Data Disk provided with this tutorial. Once you have some data on hand, you'll find out a number of ways of navigating though the datasheet to get to the record you need, and you've also learn how to select fields and records in preparation for changing them in some way. Then you'll learn how to edit your data—modifying and replacing existing data, deleting one or more records, and undoing changes when you make that inevitable misstep. Finally, you'll see how to take advantage of the Replace feature to both ferret out and change records in a single operation.

ADDING DATA TO YOUR TABLE

If you've ever used a word processing program—or, better yet, a spreadsheet program—entering your data into the datasheet will seem almost second nature. Even if you haven't, there are just a few simple steps to learn. The process primarily involves typing in the desired value, pressing Tab to move on to the next field, typing in the next value, and so forth. Before you begin, you must open your database, and then open the table itself. Both of these simple operations were introduced briefly in Lesson 1.

ADD DATA TO THE BFCUSTOMERS TABLE

In this guided activity, you'll add several records to the BFCustomers table that you created in the previous lesson. A little bit later in the lesson, you'll add additional data to this table by retrieving it from the Student Data Disk provided with this tutorial.

1. If necessary, turn on your computer, start Access, and clear the Welcome screen from view.
2. Open the FRUITFUL database by clicking on the Open Database toolbar button, getting into the FRUITFUL directory if necessary, and then double-clicking on FRUITFUL.MDB under File Name.

   Access displays the Database window for the FRUITFUL database, as shown in Figure 3-1.
3. With the BFCustomers table selected, click on the Open button in the Database window.

   Access opens the BFCustomers table in Datasheet view, as shown in Figure 3-2. You can see some of the field names (or captions) you defined in Lesson 2, but the table is empty; there's just a single blank row waiting for your input. Note the triangle to the record's left—this indicates the current record, sometimes called the record with the focus.

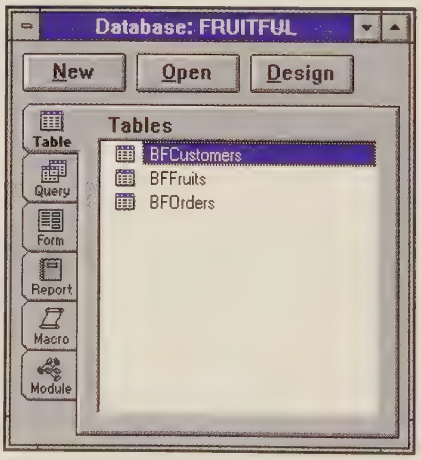
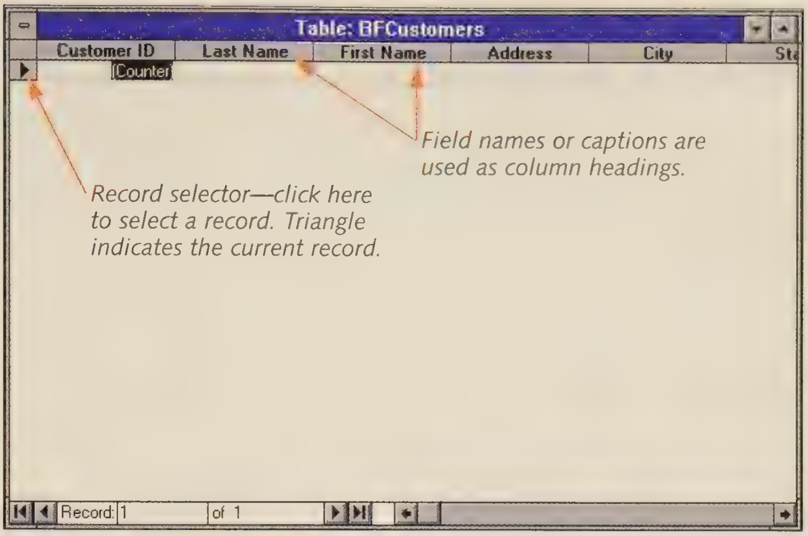


FIGURE 3-1
To open the FRUITFUL Database window shown here, you can double-click on FRUITFUL.MDB under File Name in the Open Database dialog box.



Field names or captions are used as column headings.

Record selector—click here to select a record. Triangle indicates the current record.

FIGURE 3-2

When you open a table, Access displays it in Datasheet view, as shown here. Since the BFCustomers table doesn't yet contain any data, you see just a single blank row. The triangle to the left indicates that this is the current row, also known as the row with the focus.

4. Notice that the CustomerID field includes the text "(Counter)." Remember, you defined this field as a Counter field, which means that Access enters values here automatically, generally starting with 1 and incrementing by 1 for each record. If you attempt to enter anything into a Counter field, Access beeps but otherwise doesn't respond.

5. Press Tab or click in the LastName field.

   Access moves the insertion point into the LastName field.

TIP

You can press Enter instead of Tab to move to the next field in the datasheet. Use whichever method you find most convenient.

6. Type **Apfelbaum** and press Tab.

   Access automatically enters the value 1 into the CustomerID field for this first customer, and moves the insertion point into the FirstName field when you press Tab.

7. Type **Franklin** and press Tab.

   Access moves the insertion point into the Address field.

NOTE

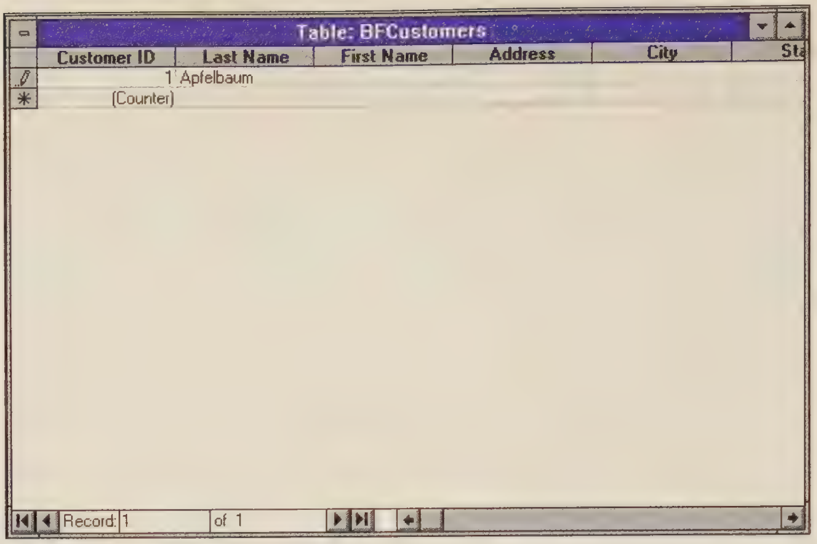
As soon as you began typing in the first record, Access created a second, empty record with the asterisk (*) in the record selector, and also placed a pencil icon in the record selector for the current record, as shown in Figure 3-3. The asterisk indicates that this is the last record in the table; the pencil means that this is the current record and that it contains unsaved changes (remember, a triangle normally indicates the current record).

8. Type **1777 Lois Ln.**, press Tab to move into the City field, type **Rock Creek**, and press Tab.

   Access scrolls the display so you can see the State field in full. Unless you have only a few fields, they will not all show up in Datasheet view at once. Pressing Tab scrolls the displays automatically to bring these fields into view.

FIGURE 3-3

When you begin typing in the first record, Access creates a new blank record below it. The pencil icon in the record selector indicates that this record includes unsaved changes.



9. Type **NC** in the State field. Now, as an experiment, try typing another character.

   Because the field size is two characters, Access beeps and doesn't add another character to the field. In this case, restricting the field size keeps people from unintentionally entering longer state codes.

10. Press Tab to move to the ZipCode field (notice that display scrolls again), enter **28333**, and then enter **1234**

    Note that you don't have to enter the hyphen; because of the input mask, Access automatically formats the ZIP code as 28333-1234.

TIP

You don't need to enter the punctuation characters in the ZipCode and PhoneNumber fields, but it's OK if you do—Access won't enter extra punctuation marks in this case.

11. Press Tab to move to the PhoneNumber field, enter **919**, enter **888**, and finally enter **9999**

    Notice that Access once again enters the punctuation for you because of the input mask associated with the PhoneNumber field.

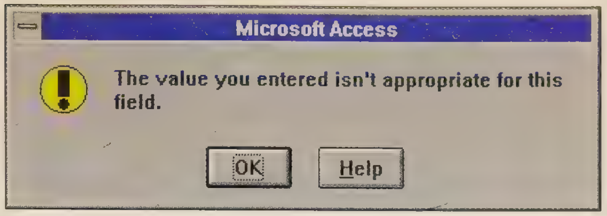
12. Press Tab to move into the DateJoined field, enter **13/15/88**, and press Tab.

    You should see the alert box shown in Figure 3-4; the date you entered is invalid, since there's no thirteenth month. If this field had instead been a Text field, Access wouldn't have known any better, and wouldn't have made a fuss about the invalid date.

13. Click on OK to return to the DateJoined field, press ← until the insertion point is directly after the 1 in 13, and press Del to change the month from 13 to 1.

FIGURE 3-4

Access displays this alert box when you attempt to enter an invalid date into a Date/Time field. Click on OK to return to Datasheet view and fix the date.



The value you entered isn't appropriate for this field.

14. Press Tab again to move on to the Notes field.

    Access does what you ask without any complaint this time, since 1/15/88 is a valid date.

15. Check the left side of the Status bar at the bottom of the screen.

    You'll see the description for the Notes field in the Status bar.

16. Since there are no notes for this record, press Tab again to move on to the ExtraCatalogs field.

    Access automatically inserts the default value of No for the ExtraCatalogs field, and again displays the field description in the Status bar.

17. Since this customer doesn't receive extra catalogs, press Tab to accept the default value of No.

    Access automatically moves you down to the second record in the table.

18. Press Tab to move to the LastName field, and type **Bechdel**

    As before, Access automatically increments the value in the CustomerID field—this time, entering the value 2—and creates a new blank record at the end of the table.

19. Press Tab, enter the first name **Alyson**, press Tab again, and then enter the address **7374 Backwoods Rd.**

    Notice that some of the address has scrolled out of view. Don't worry: it's still all there; it just doesn't fit in the datasheet display. Later in this lesson, you'll learn how to change column widths and row heights so you can see more of your data at once on the screen.

20. Press Tab, and then enter the city **Sebastopol**, the state **CA**, the ZIP code **97777-1111**, and the phone number **(415) 666-5432**. (Remember that you don't have to enter the punctuation for the ZipCode and PhoneNumber fields.)

21. Enter **4/21/88** in the DateJoined field. Then click on the New toolbar button to create a new record at the bottom of the table.

    Access moves down to the next row, again creating new blank records into which you can enter data.

22. Now you'll enter some additional data using the techniques you just learned. Type in the names and addresses listed here. You can leave all Notes fields blank for the moment, and can retain the default setting of No for all the ExtraCatalog fields.

LastName	FirstName	Address	City	State	ZipCode	PhoneNumber	DateJoined
Criton	Will	1 Oak Pl.	Providence	RI	02900	(401) 863-9999	6/5/88
Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887	(707) 333-9876	11/15/88
Everett	Joan	2234 Hanley Pl.	Baltimore	MD	21122	(301) 123-4567	2/5/89

NOTE

If you're used to word processing and spreadsheet programs, you may be wondering at what point it's a good idea to save your data. The short answer is that you don't have to. Access saves your data automatically when you move to a new record. If you want to save before that point—perhaps you're entering a long memo field—you can choose File, Save Record or press Shift+Enter.

COPYING DATA FROM ANOTHER TABLE

So that you can work with a more realistic amount of data, you'll now retrieve some data from the Student Data Disk. When you have Access data on a floppy disk you can *open* the database file much as you would open any other Access database. In this case, however, you've already created the table structure, and even added a small amount of data. What you instead want to do is *add* data to the existing table. Here you'll learn a simple way of doing so that involves fairly standard Windows techniques for cutting and pasting data. Keep in mind, however, that this technique only enables you to retrieve Access data, not data from some other program, and that for this technique to work without a hitch, the table you're gathering data from must have the same structure as the table into which you're placing data.

NOTE

If you want to retrieve data that was created in a program other than Access, you need to either import or attach the data so that Access can recognize its format. For further details, consult the online Help system or your Access documentation.

RETRIEVE DATA FROM THE STUDENT DATA DISK

This guided activity illustrates how to retrieve data from a floppy disk. In this case, you'll be retrieving data from the Student Data Disk packaged with this tutorial.

1. Close the BFCustomers table by double-clicking on its Control-menu box.

2. Place the Student Data Disk in your floppy-disk drive, click on the Open Database toolbar button, and choose your floppy drive from the Drives drop-down list.

   You should see the SAMPLE.MDB file in the File Name list box.

TIP *You don't have to close one database before opening another; Access does the job for you.*

3. Double-click on SAMPLE.MDB to open the SAMPLE database on the Student Data Disk.

   You should see the SAMPLE Database window and the BFCust table.

4. Double-click on BFCust to open the BFCust table on the Student Data Disk.

   Access displays the BFCust table in Datasheet view, as shown in Figure 3-5.

5. Choose Edit, Select All Records or press Ctrl+a.

   Access highlights all the records in the table.

6. Choose Edit, Copy or click on the Copy toolbar button.

   Although you can't see any change to the screen, Access has copied all of these records to the ***Clipboard****, a temporary storage area in your computer's memory.*

7. Double-click on the BFCust table's Control-menu box to close the table.

   Access displays the alert box shown in Figure 3-6.

8. Click on Yes to keep the data on the Clipboard and remove the alert box from view.

   Access closes the BFCust table and returns you to the SAMPLE database.

9. Click on the Open Database toolbar button to display the Open Database dialog box. Choose the drive containing your Access program files from the Drives drop-down list box. Then select the FRUITFUL directory if necessary, and double-click on FRUITFUL.MDB to open the FRUITFUL Database window.

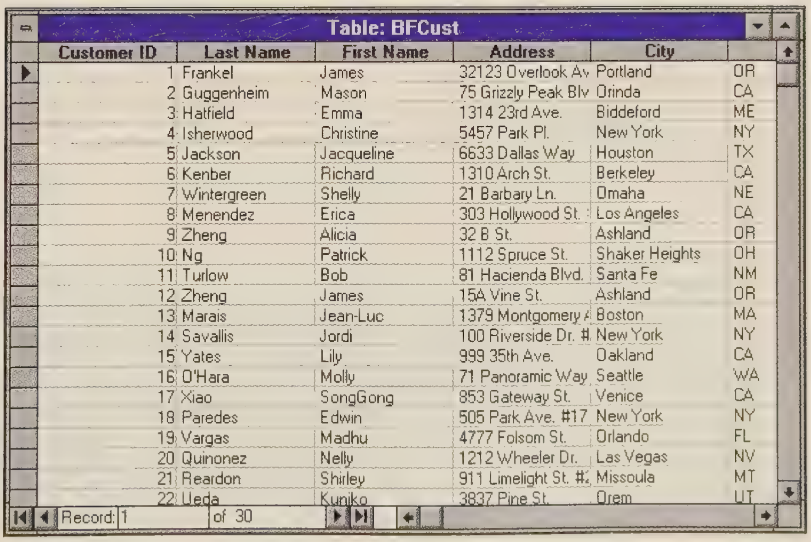


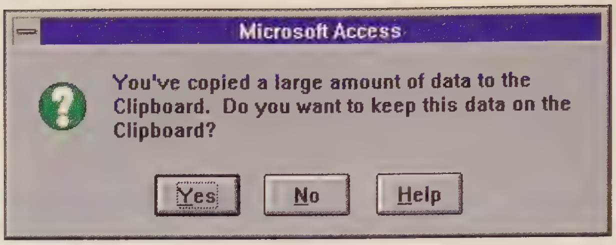
FIGURE 3-5

You can open the BFCust table in Datasheet view by opening the SAMPLE database on the Student Data Disk and double-clicking on BFCust. This is the data that you're going to copy into the BFCustomers table you created earlier.

Table: BFCust

Customer ID	Last Name	First Name	Address	City	
1	Frankel	James	32123 Overlook Av	Portland	OR
2	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
3	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
4	Isherwood	Christine	5457 Park Pl.	New York	NY
5	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
6	Kenber	Richard	1310 Arch St.	Berkeley	CA
7	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE
8	Menendez	Erica	303 Hollywood St.	Los Angeles	CA
9	Zheng	Alicia	32 B St.	Ashland	OR
10	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
11	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM
12	Zheng	James	15A Vine St.	Ashland	OR
13	Marais	Jean-Luc	1379 Montgomery A	Boston	MA
14	Savallis	Jordi	100 Riverside Dr. #	New York	NY
15	Yates	Lily	999 35th Ave.	Oakland	CA
16	O'Hara	Molly	71 Panoramic Way	Seattle	WA
17	Xiao	SongGong	853 Gateway St.	Venice	CA
18	Paredes	Edwin	505 Park Ave. #17	New York	NY
19	Vargas	Madhu	4777 Folsom St.	Orlando	FL
20	Quinonez	Nelly	1212 Wheeler Dr.	Las Vegas	NV
21	Reardon	Shirley	911 Limelight St. #:	Missoula	MT
22	Ueda	Kuniko	3837 Pine St.	Orem	UT

Record: 1 of 30



You've copied a large amount of data to the Clipboard. Do you want to keep this data on the Clipboard?

FIGURE 3-6

When you attempt to close a table after having copied a large amount of data to the Clipboard, Access displays this alert box.

10. Check that the BFCustomers table is selected, and click on the Open button to open it.

You should see the BFCustomers table with the five records that you entered earlier.

11. Now choose Edit, Paste Append to "paste," or insert, the records from the Clipboard into the BFCustomers table.

Access pastes the records into your database, and displays the alert box shown in Figure 3-7. From here, you can go ahead with the operation, cancel the operation, or get online help with the operation.

WARNING

You can't use the normal Paste button on the toolbar to paste in these records from the Clipboard; you must use the Paste Append command on the Edit menu.

12. Click on OK to confirm the operation and place the records in your BFCustomers table. Then click on the record for Christine Isherwood to remove the highlighting from the new records (actually you can click anywhere within the table to remove the highlighting).

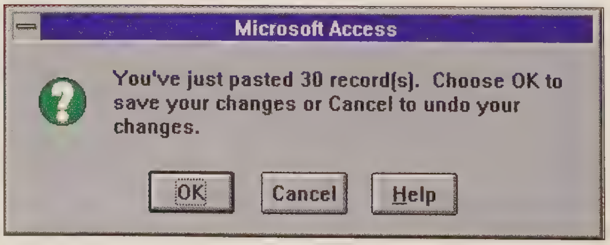
Your BFCustomers table should resemble the one shown in Figure 3-8. The display in the lower-left corner of the window indicates that the table now contains 35 records.

TIP

You can (and should) also use this strategy to add data from the Student Data Disk to the BFOrders and BFFruits tables you created in Lesson 2. Follow the instructions provided in the "Application Projects" section at the end of this lesson.

NAVIGATING THROUGH THE DATASHEET

Once you've entered a certain amount of data into your table, you need to know how to make your way around the datasheet. When you have only a few records, you can always move the focus to a different record just by clicking on that record. When you have larger amounts of data,



You've just pasted 30 record(s). Choose OK to save your changes or Cancel to undo your changes.

FIGURE 3-7

When you choose Edit, Paste Append to transfer records from the Clipboard into the open table, Access displays this alert box.

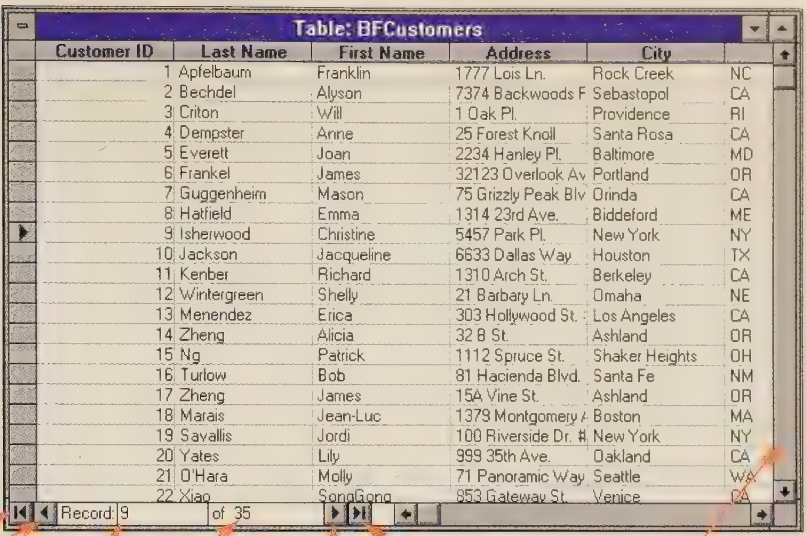


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	
1	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC
2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA
3	Criton	Will	1 Oak Pl.	Providence	RI
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
5	Everett	Joan	2234 Hanley Pl.	Baltimore	MD
6	Frankel	James	32123 Overlook Av	Portland	OR
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
9	Isherwood	Christine	5457 Park Pl.	New York	NY
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
11	Kenber	Richard	1310 Arch St.	Berkeley	CA
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE
13	Menendez	Erica	303 Hollywood St.	Los Angeles	CA
14	Zheng	Alicia	32 B St.	Ashland	OR
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
16	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM
17	Zheng	James	15A Vine St.	Ashland	OR
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY
20	Yates	Lily	999 35th Ave.	Oakland	CA
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA
22	Xiao	SongGong	853 Gateway St.	Venice	CA

Record: 9 of 35

FIGURE 3-8

The BFCustomers table now includes some data you retrieved from the SAMPLE database on the Student Data Disk. Not all of the records fit on the screen, but you can use the vertical scroll bar to scroll up or down through the records. You can also use the navigation buttons in the lower-left corner of the window to move between records.

you're better off knowing a few additional strategies for finding the records you need and selecting the fields you want to work on at the moment. There are both keyboard and mouse techniques for navigating through the datasheet, and you'll learn some of each while moving through the records that you just entered into the BFCustomers table.

NOTE

Remember, the record with the focus is simply the one you're editing at the moment. This record usually has a triangle in its record selector, but may have a pencil, if you've made any changes that haven't been saved.

NAVIGATE THROUGH BFCUSTOMERS

This guided activity illustrates how to maneuver through the records and fields in the BFCustomers table.

1. Your BFCustomers table should still be open from the previous exercise, and should resemble the table shown a moment ago in Figure 3-8. Notice the navigation buttons in the lower-left corner of the window; you use these buttons to make your way from record to record.
2. Between the navigation buttons, observe the display "Record: 9 of 35." This tells you that there are currently 35 records, and that the focus is on the ninth record. Also notice that the insertion point is in the FirstName field of the ninth record.
3. Click on the First Record button, the leftmost navigation button.

   Access moves the focus to the first record in the table, placing a triangle in its record selector and highlighting the data in the FirstName field. The current record is now listed as Record 1.

NOTE

When you use any of the navigation buttons, Access moves the focus to a new record but leaves the same field highlighted. For instance, if the FirstName field is selected or includes the insertion point, clicking on the LastRecord button moves the focus to the last record in the table and highlights the FirstName field.

4. Now click on the Last Record button.

   Access moves the focus down to the last record in the table—the record for Abe Smith. Once again, the data in the FirstName field is highlighted.

5. Click on the Previous Record button two times.

   Access moves the focus to the record for Rufus Reid, the thirty-third record.

6. Click on the Next Record button.

   The focus moves down to the record for Marta Paredes, the thirty-fourth record.

7. Press F5 or double-click on the current record number (it should be 34) at the bottom of the screen, type 3, and press Enter.

   The focus moves to the third record—that of Will Criton.

8. There are also easy keyboard techniques for moving from record to record. Try pressing ↓ twice.

   The focus moves down two rows, to the record for Joan Everett.

9. Press ↑ three times.

   The focus moves up three rows, to Alyson Bechdel's record.

10. So far you've just moved from record to record—leaving the same field selected—but you can also move from field to field. At the moment, you should be in the FirstName field in the record for Alyson Bechdel. Press Tab, noting that the highlighting moves over to the Address field.

    Pressing Tab moves you to the next field, or to the next record if you're in the last field of the record.

11. Press Shift+Tab; the highlighting should move back to the FirstName field.

    Pressing Shift+Tab moves you to the previous field, or to the previous record if you're in the first field of the record.

12. Press End; Access selects the ExtraCatalogs fields in Alyson Bechdel's record.

    Pressing End moves you to the last field in the current record.

13. Press Home; Access selects the CustomerID field in Alyson Bechdel's record.

    Pressing Home moves you to the first field in the current record.

14. Now press Ctrl+End. Then try pressing Ctrl+Home. Notice which fields of which records Access moves to each time.

    Pressing Ctrl+End moves you to the last field of the last record, and pressing Ctrl+Home moves you to the first field of the first record, respectively.

TIP

If Home, End, Ctrl+Home, and Ctrl+End aren't working as anticipated, first press F2 to highlight the current field, and then try again. As you'll learn in a moment, the F2 key lets you switch between editing and navigating through your data.

If your table includes more records than will fit on the screen at once, you can also use the vertical or horizontal scroll bars to scroll up and down or to the left or right through your table. You need to know, however, that using the scroll bars moves the display but doesn't change the focus. To switch the focus to a record that you've scrolled into view, just click anywhere within it.

SELECTING FIELDS, RECORDS, AND COLUMNS

When you track down the desired record or field, you can edit it. Before you proceed, however, it's good to know a bit about selecting fields, records, and columns. In the previous guided activity, you saw that moving to a new record highlighted a particular field in that record, and that moving to a new field highlighted that field. Such fields are said to be **selected**—they're displayed in **reverse video**, with white text against a dark background. You can also select fields by dragging over their contents, or by clicking on their left column border.

WARNING

Be careful to notice whether a field is selected. If it is, pressing Del deletes the contents of the field, and anything you type replaces the current contents of the field. If you want to add something to the field instead of replacing its entire contents, read the next section on editing records.

In some cases, you want to select not just a field, but an entire record. You usually do this in preparation for performing some operation that affects the entire record—deleting the record, for instance. To select one record, you can click on the record selector to its left; to select multiple adjacent records, you can drag over their record selectors. For example, in Figure 3-9, the first three records in the BFCustomers table have been selected. You can also choose Edit, Select All Records or click just above the topmost record selector to select all records in the table.

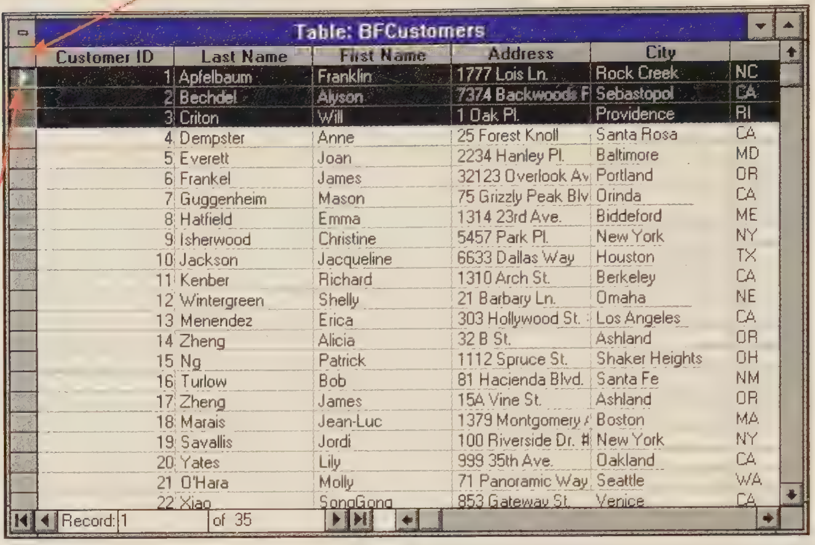
TIP

If you want to "deselect" any portion of the table, from a single field to the entire table, just click once anywhere within the table.

Finally, you may also need to select columns—most often to move or hide them. To select a single column, click on its column selector (the box containing the field name or caption); to select multiple adjacent columns, drag across their column selectors. Figure 3-10 shows the BFCustomers table with two columns selected.

FIGURE 3-9

You can select an entire record by clicking on the record selector to its left, and you can select multiple adjacent records, as here, by dragging over their record selectors.



Click here to select all records.

Click on or drag across record selectors to select one or more records.

Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	
1	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC
2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA
3	Criton	Will	1 Oak Pl.	Providence	RI
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
5	Everett	Joan	2234 Hanley Pl.	Baltimore	MD
6	Frankel	James	32123 Overlook Av	Portland	OR
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
9	Isherwood	Christine	5457 Park Pl.	New York	NY
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
11	Kenber	Richard	1310 Arch St.	Berkeley	CA
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE
13	Menendez	Erica	303 Hollywood St.	Los Angeles	CA
14	Zheng	Alicia	32 B St.	Ashland	OR
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
16	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM
17	Zheng	James	15A Vine St.	Ashland	OR
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY
20	Yates	Lily	999 35th Ave.	Oakland	CA
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA
22	Xiao	SongGong	853 Gateway St.	Venice	CA

Record: 1 of 35

FIGURE 3-10

You can select an entire column by clicking on its column selector, and you can select multiple columns by dragging over their column selectors. In this figure, the LastName and FirstName columns have been selected.

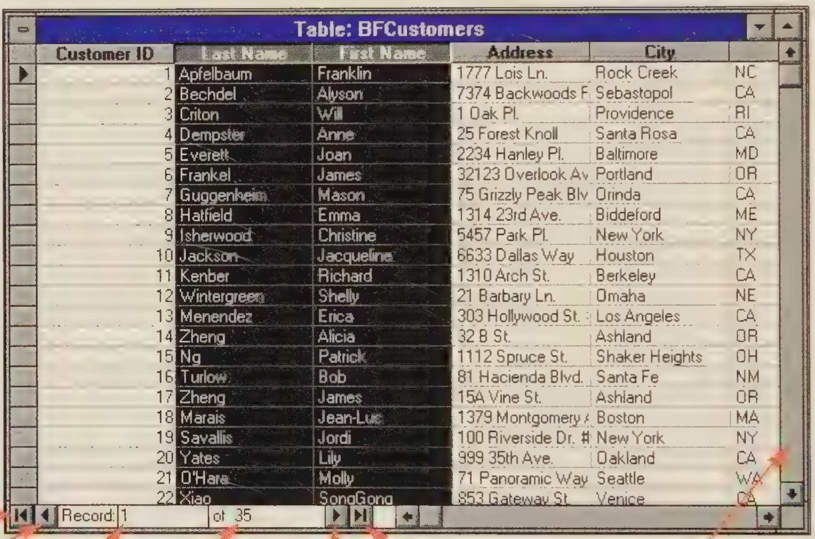


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	
1	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC
2	Bechdel	Alyson	7374 Backwoods F.	Sebastopol	CA
3	Criton	Will	1 Oak Pl.	Providence	RI
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
5	Everett	Joan	2234 Hanley Pl.	Baltimore	MD
6	Frankel	James	32123 Overlook Av	Portland	OR
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
9	Isherwood	Christine	5457 Park Pl.	New York	NY
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
11	Kenber	Richard	1310 Arch St.	Berkeley	CA
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE
13	Menendez	Erica	303 Hollywood St.	Los Angeles	CA
14	Zheng	Alicia	32 B St.	Ashland	OR
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
16	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM
17	Zheng	James	15A Vine St.	Ashland	OR
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY
20	Yates	Lily	999 35th Ave.	Oakland	CA
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA
22	Xiao	SongGong	853 Gateway St.	Venice	CA

Record: 1 of 35

First Record button

Previous Record button

Current record

Total records

Next Record button

Last Record button

Vertical scroll bar

EDITING RECORDS

Once you've tracked down the records you're interested in, you're ready to begin editing. You can easily delete or replace the contents of a particular field, and you can also add to or alter the existing contents of a field. You can delete one or more entire records as well. Once you begin editing your data, you'll want to know how to use the Undo feature, for when you modify data and then have a change of heart.

As mentioned, when a field is selected, you can delete its contents by pressing Del and you can overwrite its contents just by typing—what you type completely replaces the previous contents of the field. If you instead want to edit the contents of the field—changing it without deleting it entirely—you should either press F2 or click where you want to begin editing. This removes the highlighting from the field, replacing it with an insertion point. To add text, use → or ← to move the insertion point to the desired spot and begin to type. To remove text, move the insertion point to the desired spot and either press Del to delete the character to the right of the insertion point, or press Bksp to delete the character to the left of the insertion point. When you're done editing, press F2 again to reintroduce the highlighting.

EDIT THE BFCUSTOMERS TABLE

In this guided activity, you'll make a number of changes to the BFCustomers table. In addition, you'll learn several techniques for undoing your changes. These techniques are invaluable for those times when you delete a record unintentionally or replace some text and then decide to reverse your course.

1. The BFCustomers table should still be open. If any records or columns are selected, just click anywhere within the table to remove the highlighting.
2. Press F5, type **5**, and press Enter to move to the record for Joan Everett.
3. If you're not already located in the FirstName field, press Tab or Shift+Tab until you get there.

   Access selects the first name Joan.
4. Click after the *n* in *Joan* or press F2.

   Notice that the highlighting disappears, and is replaced by a blinking insertion point immediately after the n *in* Joan. *As you probably know, the insertion point indicates where the text you type will be inserted, as well as where any deletions will occur.*
5. Type **ne** to change the name to Joanne.
6. At this point, try pressing ←.

   This does not move you to the previous field, but instead moves the insertion point one character to the left.
7. Press F2 to select the contents of the FirstName field and try pressing ← again.

   This time, pressing ← selects the LastName field for Joanne Everett's record.
8. Noting that the last name Everett is selected, type **Elias**

   Access automatically deletes the last name Everett, replacing it with the name Elias.
9. Now double-click on the last name Guggenheim to select it, and press Del to delete the entire name.

10. Press Esc or click on the Undo Current Field/Record toolbar button.

    Access undoes the change, bringing back the last name you just deleted.

11. Double-click on the last name Hatfield to select it, and type **Hernandez** as the new last name.

    Access replaces the old last name with the new one.

12. Press Tab to move to FirstName field, type **Rosa** as the new first name, press Tab again to move to the Address field, and type **204 Panoramic Way** as the new address.

13. Press Esc or click on the Undo Current Field/Record toolbar button to change the address from 204 Panoramic Way back to 1314 23rd Ave. Then press Esc or click on the Undo Current Field/Record toolbar button a second time.

    Access reverses the rest of the changes to the current record in one fell swoop, restoring the name Emma Hatfield.

14. Click in the Notes field for Anne Dempster (you'll probably have to use the horizontal scroll bar to find the Notes field) and type **Loves kiwis**

15. Choose Edit, Undo Typing or click on the Undo toolbar button.

    Access removes the text you just deleted. This Undo command reverses your most recent action.

TIP

In this case, the full name of the Undo command is Undo Typing, but the name of the Undo command changes depending on the action being undone. If your most recent action was to undo something, the Undo command changes to the Redo command.

16. Now choose Edit, Redo (U) Typing or again click on the Undo toolbar button.

    Access restores the entry that you just deleted with the previous Undo command. Unlike the other Undo commands, this one lets you reverse the effects of the most recent Undo operation.

17. Press Tab to move to the ExtraCatalogs field for Anne Dempster's record, type **Yes**, and press Tab to move on to the next record.

    Access automatically saves the changes to Anne Dempster's record.

18. Choose Edit, Undo Saved Record or click on the Undo toolbar button.

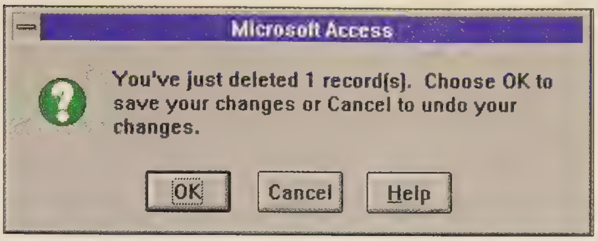
    Access reverses the changes to the Dempster record, even though the record had been saved. This Undo command reverses only the most recent action; if you've done anything else since then, you can't undo the changes to a saved record.

19. Click on the record selector for Richard Kenber's record and then press Del.

    Access displays the alert box shown in Figure 3-11, warning you that you've deleted a record and giving you a chance to undo the change.

FIGURE 3-11

When you attempt to delete one or more records, Access displays this alert box describing what will happen if you proceed with the operation and giving you a chance to change your mind.



You've just deleted 1 record(s). Choose OK to save your changes or Cancel to undo your changes.

Click on OK to go ahead and delete the record(s), click on Cancel to cancel the operation and return to the datasheet, or click on Help to bring up online help for this operation.

WARNING

When you delete one or more records, you cannot undo the operation with any of the Undo commands. Your only way out is to cancel the operation when Access displays its alert box.

20. Click on OK to delete the record.

Access deletes the selected record and moves up the subsequent records to take its place. Note, however, that the values in the CustomerID field are not updated. As you'd expect, customers retain the same ID numbers even if other customers are removed from the database.

21. Press Tab repeatedly until you get to the Notes field for Shelly Wintergreen's record and press Shift+F2.

Access opens the Zoom window shown in Figure 3-12; you can use this window when entering longer amounts of text or when editing fields that include a lot of text.

22. Type the following text:

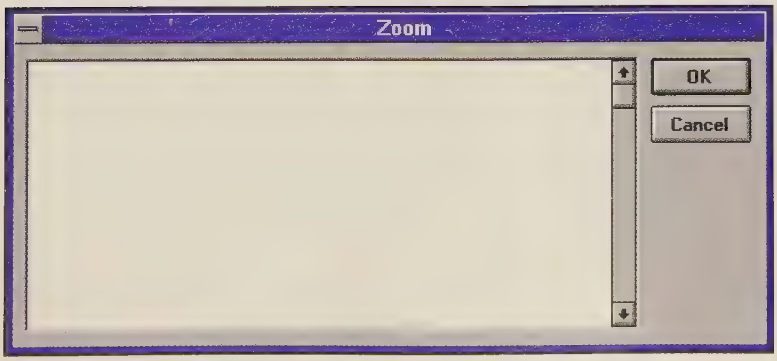
Mrs. Wintergreen is very elderly. If she's home and you have a moment, try to knock (loudly) on the door and chat for a minute. She's allergic to pomegranates but loves all other fruits we currently offer. OK to leave packages at the back door if she's not home.

23. When you're done, click on OK to return to the Datasheet window.

You can see only a tiny amount of the text you just typed.

FIGURE 3-12

Pressing Shift+F2 opens the Zoom window. Since this window lets you see more of your text at once, you should use it when entering a lot of text or editing longer Text fields—Memo fields, in particular.



24. Press and hold down ← to scroll through the text in Mrs. Wintergreen's Notes field.

    Notice how much more difficult this is than viewing the text in the Zoom window.

25. Press F2, press Ctrl+End to move to the end of the table, and press Tab.

    Access generates a new, blank record at the end of the table.

26. Press Tab and then press Ctrl+' (hold down Ctrl while pressing the single quote key).

    Access inserts the name Smith into the current field. The key combination Ctrl+' is known as the ***ditto key****; it repeats the value from the same field in the previous record.*

27. Press Tab and enter **Cassandra** in the FirstName field of your new record.

28. Press Tab and then press Ctrl+' again to duplicate the Address field from the previous record. Continue in this manner, duplicating the City, State, ZipCode, and PhoneNumber fields.

29. In the DateJoined field, enter **4/22/94** and then press Tab twice to complete the new record.

SEARCHING FOR RECORDS BASED ON THEIR CONTENTS

When you're moving about in a small table, you can usually find the record you want just by scrolling, or by using the navigation buttons and keyboard methods you learned earlier in this lesson. However, as your tables grow larger, it becomes more difficult to track down just the records you need using these strategies. Luckily, Access provides the Find command, which lets you search for records based on their contents, and the Replace command, which lets you both search for and replace specific values.

FIND AND REPLACE VALUES IN BFCUSTOMERS

In this guided activity, you'll experiment with both the Find and Replace commands to get a sense of how they work and how they differ. As you'll discover, the Replace command is particularly valuable for changing multiple instances of the same string of characters. For example, if you abbreviated *Boulevard* incorrectly throughout your table—maybe you spelled it *Bvld*—you could correct every instance of the mistake with just a few easy steps.

1. Make sure that the BFCustomers table is still open in Datasheet view, click on the First Record button, and move to the FirstName field if you're not already there.

2. Choose Edit, Find or click on the Find toolbar button (it looks like a pair of binoculars).

   Access displays the Find In Field dialog box, as shown in Figure 3-13. Notice that the dialog box Title bar also lists the current field, FirstName. By default Access looks for the specified value in the current field only, but you can also request that it search in all fields by clicking on the All Fields option button.

3. In the Find What text box, type **Joanne** and click on the Find Next button.

   Access moves the focus down to the record for Joanne Everett, but doesn't close the dialog box—in case you want to continue searching for other records.

NOTE

Click on the Find First button to find the first instance of the Find What text in the table; click on the Find Next button to find the next instance of the text after the current record.

4. Place the mouse pointer over the dialog box's Title bar and drag it down to move the dialog box out of the way.

   As you can see in Figure 3-14, the name Joanne is highlighted and the record for Joanne Elias now has the focus.

5. Now double-click in the Find What text box, type **Chris**, and click on Find Next—you're going to try to find the record for Christine Isherwood.

   Access displays the alert dialog box shown in Figure 3-15, indicating that it didn't find a record with the specified name.

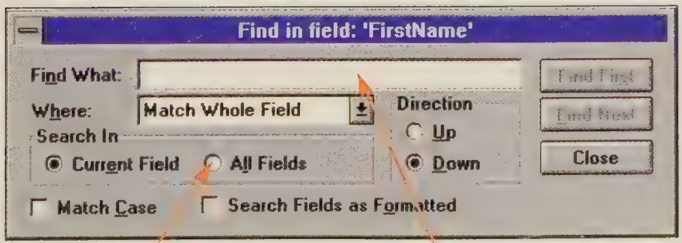
6. Click on Yes to continue the search.

   Access displays the alert box shown in Figure 3-16, indicating that the character string Chris *wasn't found anywhere in the table.*

7. Click on OK to clear the alert box from the screen. Then pull down the Where drop-down list box and choose the option Any Part Of Field, noting that Match Whole Field had been selected originally.

FIGURE 3-13

When you choose Edit, Find or click on the Find Toolbar button, Access displays the Find In Field dialog box shown here.



Find in field: 'FirstName'

Find What:

Where: Match Whole Field

Search In: ● Current Field ○ All Fields

Direction: ○ Up ● Down

☐ Match Case ☐ Search Fields as Formatted

Select this button to search through all fields in the table.

Type the characters you want to find.

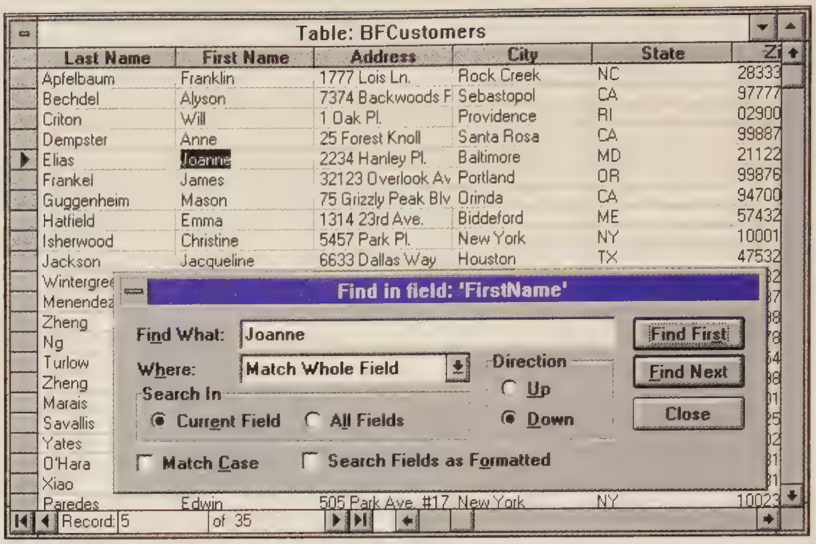


Table: BFCustomers

	Last Name	First Name	Address	City	State	Zi
	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC	28333
	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA	97777
	Criton	Will	1 Oak Pl.	Providence	RI	02900
	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887
▶	Elias	Joanne	2234 Hanley Pl.	Baltimore	MD	21122
	Frankel	James	32123 Overlook Av	Portland	OR	99876
	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA	94700
	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME	57432
	Isherwood	Christine	5457 Park Pl.	New York	NY	10001
	Jackson	Jacqueline	6633 Dallas Way	Houston	TX	47532
	Wintergree					
	Menendez					
	Zheng					
	Ng					
	Turlow					
	Zheng					
	Marais					
	Savallis					
	Yates					
	O'Hara					
	Xiao					
	Paredes	Edwin	505 Park Ave. #17	New York	NY	10023

Record: 5 of 35

Find in field: 'FirstName'

Find What: Joanne

Where: Match Whole Field

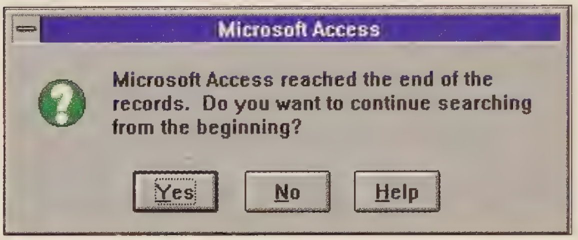
Search In: ● Current Field ○ All Fields

Direction: ○ Up ● Down

☐ Match Case ☐ Search Fields as Formatted

FIGURE 3-14

If you enter Joanne in the Find What text box and click on Find Next, Access moves the focus to the record for Joanne Elias. To see the record, you'll need to close the dialog box or move it out of the way by dragging on its title bar, as was done here.

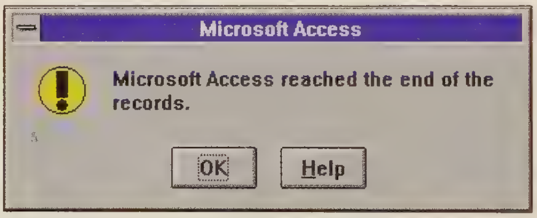


Microsoft Access

Microsoft Access reached the end of the records. Do you want to continue searching from the beginning?

FIGURE 3-15

When you search for something that Access doesn't find, it may display this dialog box, asking if you want to search from the beginning of the table.



Microsoft Access

Microsoft Access reached the end of the records.

FIGURE 3-16

Access displays this alert box when it can't find the search string in your table.

8. Click on Find Next again.

   This time, Access moves the focus to the record for Christine Isherwood. The option Any Part Of Field enabled you to find the record even though you had only a partial name. In contrast, when Match Whole Field is selected, Access finds only those records in which the characters in the Find What text box match the characters in the field exactly.

TIP

You can also choose Start Of Field from the Where drop-down list box if you're pretty sure that the characters in the Find What text box match the first part of the string of characters you're looking for in the table.

9. Enter **Bechdel** in the Find What text box, and then click on the Find First button.

Access alerts you that it "reached the end of the records" without finding the specified string.

10. Click on Yes and then OK to clear the alert boxes. Next click on the All Fields option button under Search In and again click on Find First.

This time, Access finds the record containing the value Bechdel—because it's searching through all fields, not just the FirstName field. Note that when you choose the All Field option, the dialog box's name changes to Find, since Access is no longer searching through one particular field.

11. Enter **Pl.** in the Find What text box and click on Find First.

Access moves the focus to the record for Will Criton, since he lives at Oak Place.

12. Click on Find Next; Access moves the focus to the record for Joanne Elias. Click on Find Next again; Access moves the focus to the record for Christine Isherwood.

Pressing Find What repeatedly moves the focus to each subsequent record containing the Find What value. But what if you want not only to find but also to change those values? Read on.

13. Click on Close to close the Find dialog box, press Ctrl+Home to move to the top of the table, and then choose Edit, Replace.

You'll see the Replace dialog box, as shown in Figure 3-17. Notice that the Find What text box includes the value from your previous Find operation. Also note that the All Fields option button is selected; this, too, is a carryover from the previous Find operation.

TIP

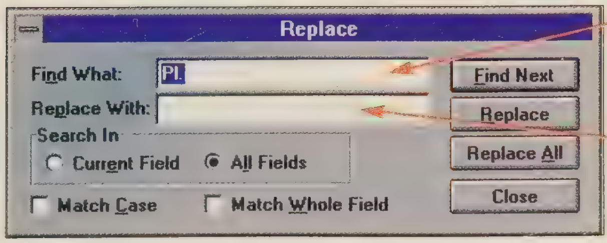
In this case, you don't need to enter anything in the Find What box. Usually, however, you'd enter the string of characters you were searching for, as when using the Find feature.

14. Type **Place** in the Replace With text box and then click on Find Next.

Access moves the focus to Will Criton's record, the first record containing the string of characters Pl.

FIGURE 3-17

Access displays the Replace dialog box, shown here, when you choose Edit, Replace. You can use this dialog box not only to find specified values, but also to replace one or more of them with another value.



Find What: Pl.

Replace With:

Search In ○ Current Field ● All Fields

☐ Match Case ☐ Match Whole Field

Type the characters you want to find.

Type the characters with which you want to replace the Find What text.

15. Click on the Replace button.

    Access replaces Pl. *with* Place *in Will Criton's record, and also moves on to the next record containing the specified string, the record for Joanne Elias.*

16. This time, click on the Replace All button.

    Access displays an alert box asking if you want it to continue searching from the beginning of the table.

TIP

Replace is safer than Replace All. If you use Replace and Access stops on a record you don't want to change, you can click on the Find Next button to go on to the next instance of the Find What text without changing the current one.

17. Click on No; in this case, you started the operation at the beginning of the table.

    You'll see the alert box shown in Figure 3-18. Access is giving you a last chance to back out of the operation.

18. Click on OK to complete the Replace operation.

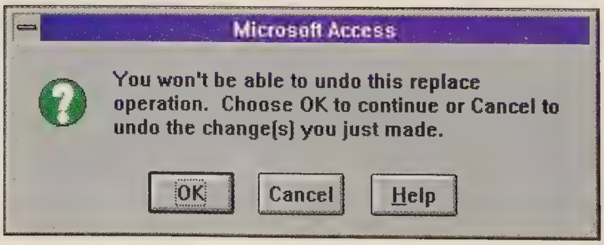
    Access changes the records for both Joanne Elias and Christine Isherwood.

19. Clear the Replace dialog box from the screen by clicking on the Close button.

There are a number of additional features, including wildcards and case-sensitive searches, that you can use with the Find and Replace commands. (**Wildcards** are simply special characters that stand in for one or more characters; **case-sensitive** searches are ones in which Access takes into account the case of the letters.) Consult online help or your Access documentation for further information.

CUSTOMIZING THE DATASHEET

In many cases, the default datasheet layout will adequately meet your needs. At times, however, you might like to see your data in a somewhat different light. Access lets you customize the datasheet layout in a variety of ways. Among other things, you can change column widths and row heights, move columns, hide columns, and **freeze** columns so that they're



Microsoft Access

You won't be able to undo this replace operation. Choose OK to continue or Cancel to undo the change(s) you just made.

FIGURE 3-18
When you choose the Replace All button in the Replace dialog box, Access displays this alert box to give you a final chance to change your mind before going forward with the Replace operation.

always visible on the screen. For example, you might want to reduce the widths of several columns so you can see more columns on the screen at once, or you might want to freeze the LastName column so you can always tell at a glance whose record you're working on, no matter which field you're in.

Keep in mind that changes to the datasheet just affect the display of your data in Datasheet view—they do *not* affect the table structure. (To modify the table structure, you need to work in Table Design view, as described in Lesson 2.) Also, don't be too timid about rearranging the datasheet, since any modifications you make needn't be permanent. When you close your table, Access asks whether you want to save any changes to its layout. At this point, you always have a choice between saving the modified layout or discarding your changes and returning to the default display.

CUSTOMIZE THE DATASHEET

This guided activity will give you some practice customizing the datasheet.

1. You should still be viewing the BFCustomers table in Datasheet view. If not, open the table now.

2. Place the mouse pointer over the border between the column selectors for the CustomerID and LastName fields.

   The mouse pointer should change into a vertical bar with a horizontal double-headed arrow attached, as shown in Figure 3-19. This pointer indicates that you drag to the left to narrow the column to the left of the pointer, or drag to the right to widen the column to the left.

3. Drag to the left to narrow the CustomerID field until it's only two or three characters wide.

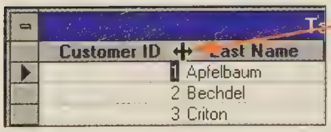
   Although the column heading won't show in full, you'll still be able to see the complete customer ID numbers.

4. Place the mouse pointer over the border between the column selectors for the State and ZipCode fields, and drag to the left to narrow the State field.

   At this point, your Datasheet window might look something like the one shown in Figure 3-20. Notice that you can now see the entire address at once, without scrolling.

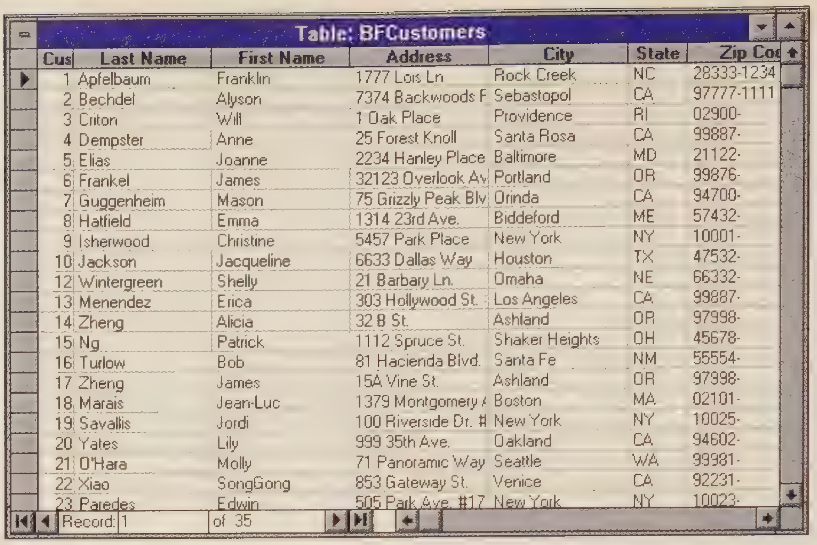
FIGURE 3-19

When you place the mouse pointer over the border between two column selectors, it takes on the shape shown here.



Customer ID	ast Name
1	Apfelbaum
2	Bechdel
3	Criton

Pointer indicating that you can drag to narrow or widen the column to the left.



Cus	Last Name	First Name	Address	City	State	Zip Coc
1	Apfelbaum	Franklin	1777 Lois Ln	Rock Creek	NC	28333-1234
2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA	97777-1111
3	Criton	Will	1 Oak Place	Providence	RI	02900-
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887-
5	Elias	Joanne	2234 Hanley Place	Baltimore	MD	21122-
6	Frankel	James	32123 Overlook Av	Portland	OR	99876-
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA	94700-
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME	57432-
9	Isherwood	Christine	5457 Park Place	New York	NY	10001-
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX	47532-
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE	66332-
13	Menendez	Erica	303 Hollywood St.	Los Angeles	CA	99887-
14	Zheng	Alicia	32 B St.	Ashland	OR	97998-
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH	45678-
16	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM	55554-
17	Zheng	James	15A Vine St.	Ashland	OR	97998-
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA	02101-
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY	10025-
20	Yates	Lily	999 35th Ave.	Oakland	CA	94602-
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA	99981-
22	Xiao	SongGong	853 Gateway St.	Venice	CA	92231-
23	Paredes	Edwin	505 Park Ave. #17	New York	NY	10023-

FIGURE 3-20 *You can narrow columns to see more fields on the screen at once in Datasheet view. Here, for instance, the CustomerID and State columns have been narrowed, and you can now see the entire customer name and address on the screen at once.*

TIP

Don't forget that you can also see more columns on the screen at once by maximizing the Datasheet window—that is, clicking on the Maximize button in its upper-right corner.

5. You can also increase or decrease the height of the rows in your table. Place the mouse pointer over the border between any two record selectors; it changes into a horizontal bar with a vertical double-headed arrow attached. At this point, drag downward to the horizontal line indicating the next row, and then release the mouse button.

   Access increases the row height of all rows in the table to about twice their original size, as shown in Figure 3-21. When you have long fields, increasing the row height lets you see more of the field contents at once. In the Address field, for instance, notice that the longer addresses are now wrapping to the next line instead of disappearing from view.

NOTE

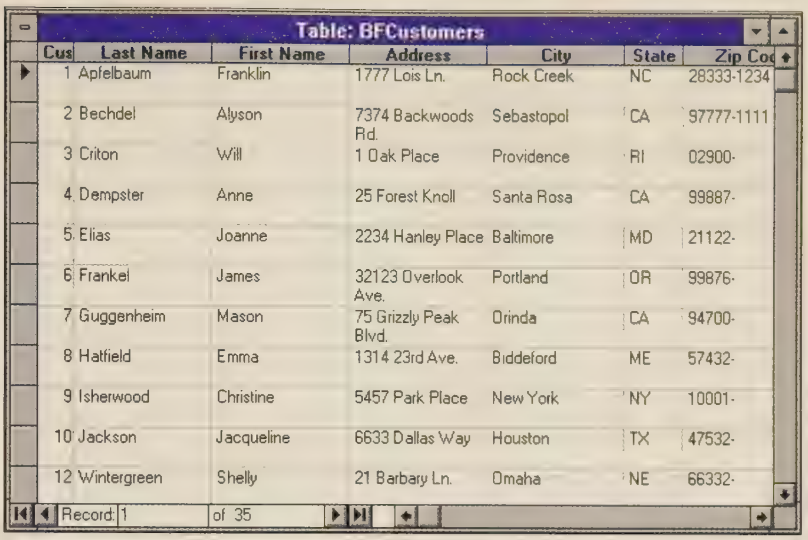
When you change a row height, Access changes the height of all rows in the table, not just one (as when you adjust column widths).

6. Now return the rows to their original height by placing the mouse pointer over the border between any two record selectors, dragging upward until the black line is at the row's midpoint, and then releasing the mouse button.

7. If reducing column widths and maximizing the screen doesn't bring all the desired fields into view, you can move columns to see just the ones you want. Scroll to the right until you see the PhoneNumber column, and then click on its column selector.

   Access highlights the column to indicate that it's selected.

8. With the mouse pointer still located over the column selector, drag the column to the left, making sure to keep the mouse button held down.



Cus	Last Name	First Name	Address	City	State	Zip Coc
1	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC	28333-1234
2	Bechdel	Alyson	7374 Backwoods Rd.	Sebastopol	CA	97777-1111
3	Criton	Will	1 Oak Place	Providence	RI	02900-
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887-
5	Elias	Joanne	2234 Hanley Place	Baltimore	MD	21122-
6	Frankel	James	32123 Overlook Ave.	Portland	OR	99876-
7	Guggenheim	Mason	75 Grizzly Peak Blvd.	Orinda	CA	94700-
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME	57432-
9	Isherwood	Christine	5457 Park Place	New York	NY	10001-
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX	47532-
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE	66332-

FIGURE 3-21
You can increase row heights in the Datasheet window by placing the mouse pointer over the border between two record selectors and dragging downward. Here the row height has been increased to about twice its original size. Note that you can now see all of the addresses in full.

Notice that, as you drag, Access displays a heavy vertical line to indicate where the column will be inserted when you release the mouse button.

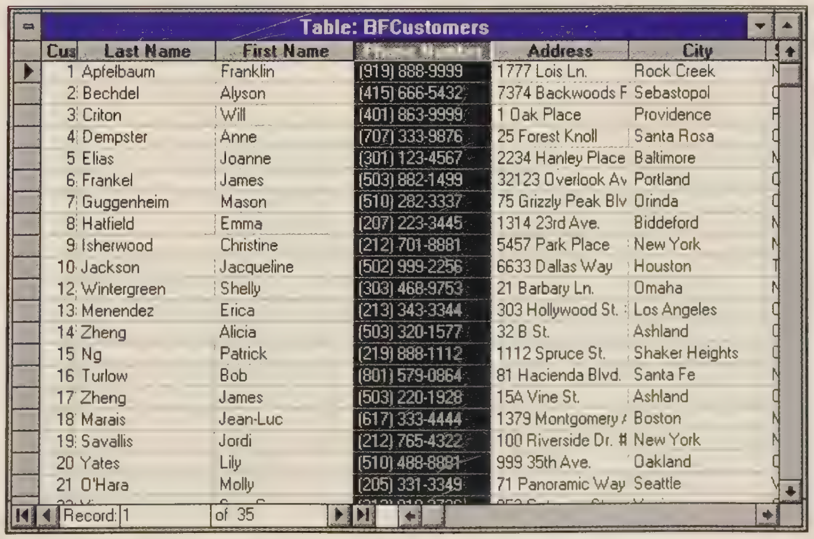
9. Drag the selected column until the heavy vertical line is just to the right of the FirstName field, and then release the mouse button.

   Access places the PhoneNumber column just to the right of the FirstName column, as shown in Figure 3-22.

TIP

You can move several adjacent columns at once by selecting all of them and then dragging on the column selector for one of them.

10. In some situations, hiding columns may be a better solution than moving them. If you just wanted to view names, phone numbers,



Cus	Last Name	First Name		Address	City
1	Apfelbaum	Franklin	(919) 888-9999	1777 Lois Ln.	Rock Creek
2	Bechdel	Alyson	(415) 666-5432	7374 Backwoods F	Sebastopol
3	Criton	Will	(401) 863-9999	1 Oak Place	Providence
4	Dempster	Anne	(707) 333-9876	25 Forest Knoll	Santa Rosa
5	Elias	Joanne	(301) 123-4567	2234 Hanley Place	Baltimore
6	Frankel	James	(503) 882-1499	32123 Overlook Av	Portland
7	Guggenheim	Mason	(510) 282-3337	75 Grizzly Peak Blv	Orinda
8	Hatfield	Emma	(207) 223-3445	1314 23rd Ave.	Biddeford
9	Isherwood	Christine	(212) 701-8881	5457 Park Place	New York
10	Jackson	Jacqueline	(502) 999-2256	6633 Dallas Way	Houston
12	Wintergreen	Shelly	(303) 468-9753	21 Barbary Ln.	Omaha
13	Menendez	Erica	(213) 343-3344	303 Hollywood St.	Los Angeles
14	Zheng	Alicia	(503) 320-1577	32 B St.	Ashland
15	Ng	Patrick	(219) 888-1112	1112 Spruce St.	Shaker Heights
16	Turlow	Bob	(801) 579-0864	81 Hacienda Blvd.	Santa Fe
17	Zheng	James	(503) 220-1928	15A Vine St.	Ashland
18	Marais	Jean-Luc	(617) 333-4444	1379 Montgomery /	Boston
19	Savallis	Jordi	(212) 765-4322	100 Riverside Dr. #	New York
20	Yates	Lily	(510) 488-8881	999 35th Ave.	Oakland
21	O'Hara	Molly	(205) 331-3349	71 Panoramic Way	Seattle

FIGURE 3-22
You can select a column and drag on its column selector to change its location in Datasheet view. Here the PhoneNumber field has been placed just to the right of the FirstName field. You might rearrange your data in this way if you were making phone calls and wanted to see both names and phone numbers at the same time.

and date-joined information—but didn't need to see any other data in the table—you could hide all the other columns. First, select the CustomerID field and choose Format, Hide Columns.

Access removes the CustomerID column from view.

11. To hide (or bring back into view) more than one column, choose Format, Show Columns.

    Access displays the Show Columns dialog box shown in Figure 3-23.

12. In the Column list box, check marks indicate which fields are displayed. Noting that the Address field is selected, click on the Hide button.

    Access removes the check mark to the left of the field name and conceals the field in the Datasheet window.

13. Now double-click on the City field.

    Access removes the City field's check mark and conceals the field in the Datasheet window.

14. Continue hiding columns—either by double-clicking on field names or by selecting them and choosing the Hide button. Conceal the ExtraCatalogs, Notes, State, and ZipCode fields.

15. Click on the Close button in the Show Columns dialog box.

    Access returns you to the datasheet, which should show only the LastName, FirstName, PhoneNumber, and DateJoined fields, as shown in Figure 3-24.

16. Now choose Format, Show Columns, drag over all the field names in the Column list box to select them all, click on the Show button, and then click on the Close button.

    Access brings all of the columns back into view.

NOTE

Selecting a field and choosing the Show button brings that field back into view, as does double-clicking on a field that has no check mark to its left.

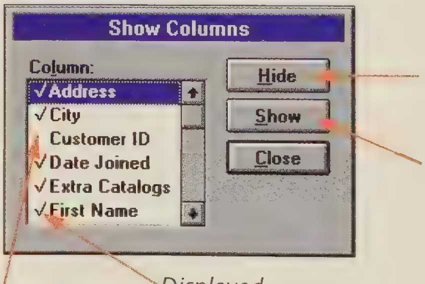


FIGURE 3-23

When you choose Format, Show Columns, Access displays this Show Columns dialog box. Don't be thrown off by the name. You can actually both show and hide columns from here.

Click here to hide the selected column(s).

Click here to redisplay the selected column(s).

Hidden column (unchecked)

Displayed columns (checked)

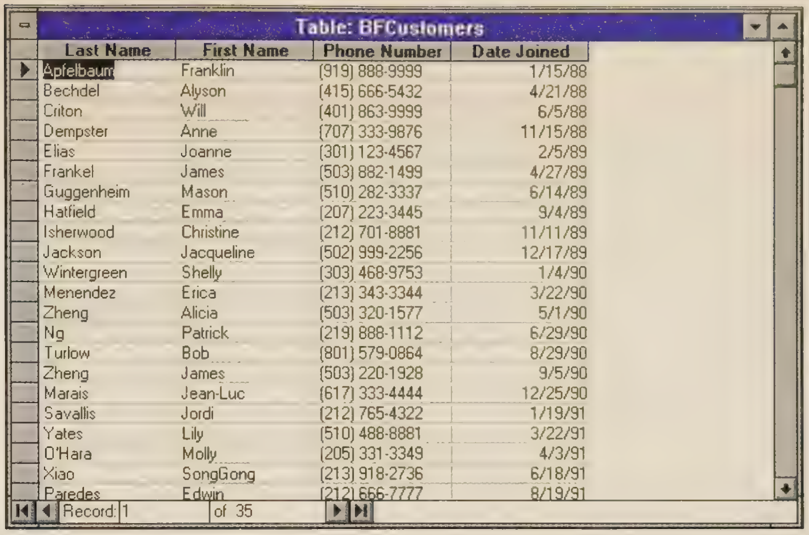


Table: BFCustomers

Last Name	First Name	Phone Number	Date Joined
Apfelbaum	Franklin	(919) 888-9999	1/15/88
Bechdel	Alyson	(415) 666-5432	4/21/88
Criton	Will	(401) 863-9999	6/5/88
Dempster	Anne	(707) 333-9876	11/15/88
Elias	Joanne	(301) 123-4567	2/5/89
Frankel	James	(503) 882-1499	4/27/89
Guggenheim	Mason	(510) 282-3337	6/14/89
Hatfield	Emma	(207) 223-3445	9/4/89
Isherwood	Christine	(212) 701-8881	11/11/89
Jackson	Jacqueline	(502) 999-2256	12/17/89
Wintergreen	Shelly	(303) 468-9753	1/4/90
Menendez	Erica	(213) 343-3344	3/22/90
Zheng	Alicia	(503) 320-1577	5/1/90
Ng	Patrick	(219) 888-1112	6/29/90
Turlow	Bob	(801) 579-0864	8/29/90
Zheng	James	(503) 220-1928	9/5/90
Marais	Jean-Luc	(617) 333-4444	12/25/90
Savallis	Jordi	(212) 765-4322	1/19/91
Yates	Lily	(510) 488-8881	3/22/91
O'Hara	Molly	(205) 331-3349	4/3/91
Xiao	SongGong	(213) 918-2736	6/18/91
Paredes	Edwin	(212) 666-7777	8/19/91

Record: 1 of 35

FIGURE 3-24

You can hide as few or as many columns as you like by using the Show Column dialog box. In this Datasheet view, all but the LastName, FirstName, PhoneNumber, and DateJoined fields have been hidden.

17. In some cases, you may want to freeze one or more columns so they always remain in view. To freeze the LastName column, click on its column selector to select it, and then choose Format, Freeze Columns.

Access moves the LastName column to the left-most column in Datasheet view.

18. Now try scrolling to the right, either by pressing Tab repeatedly or by using the horizontal scroll bar.

The LastName field remains visible; it's frozen into place in the left-most column of Datasheet view, as you can see in Figure 3-25.

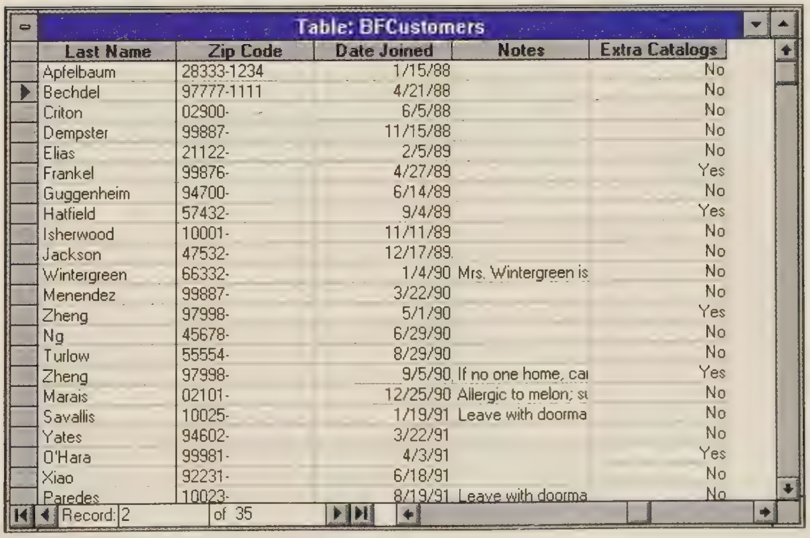


Table: BFCustomers

Last Name	Zip Code	Date Joined	Notes	Extra Catalogs
Apfelbaum	28333-1234	1/15/88		No
Bechdel	97777-1111	4/21/88		No
Criton	02900-	6/5/88		No
Dempster	99887-	11/15/88		No
Elias	21122-	2/5/89		No
Frankel	99876-	4/27/89		Yes
Guggenheim	94700-	6/14/89		No
Hatfield	57432-	9/4/89		Yes
Isherwood	10001-	11/11/89		No
Jackson	47532-	12/17/89		No
Wintergreen	66332-	1/4/90	Mrs. Wintergreen is	No
Menendez	99887-	3/22/90		No
Zheng	97998-	5/1/90		Yes
Ng	45678-	6/29/90		No
Turlow	55554-	8/29/90		No
Zheng	97998-	9/5/90	If no one home, cal	Yes
Marais	02101-	12/25/90	Allergic to melon; su	No
Savallis	10025-	1/19/91	Leave with doorma	No
Yates	94602-	3/22/91		No
O'Hara	99981-	4/3/91		Yes
Xiao	92231-	6/18/91		No
Paredes	10023-	8/19/91	Leave with doorma	No

Record: 2 of 35

FIGURE 3-25

You can "freeze" one or more columns by selecting them and choosing Format, Freeze Columns. In this case, the LastName column is frozen, so it remains visible even when you scroll over to the right-most fields in the table, as shown here.

19. Choose Format, Unfreeze All Columns to “unfreeze” any and all frozen columns.

Access unfreezes all columns. Any formerly frozen columns remain in the leftmost position in the datasheet; if you like, you can move them back where they were by using the techniques you just learned for moving columns. Alternatively, you can just close the table without saving the changes to the datasheet layout.

20. At this point, you’re done experimenting with the datasheet layout, so double-click on the Datasheet view window’s Control-menu box to close the table.

Access displays the alert box shown in Figure 3-26, asking whether you want to save the changes you’ve made to the datasheet layout for the BFCustomers table. Choose Yes to save your changes, No to discard them, Cancel to return to the datasheet without carrying out the operation, or Help to get further assistance.

21. Click on No to close the table without saving any of the changes to the datasheet layout.

Access asks whether you want to keep the data on the Clipboard.

22. Click on No again.

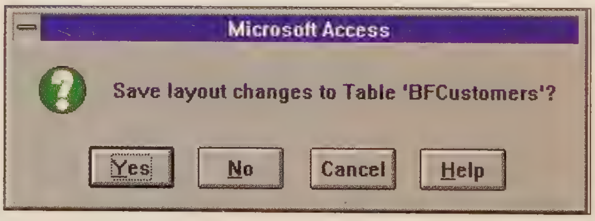
Access returns you to the FRUITFUL Database window.

NOTE

Even if you don't save the datasheet layout, Access still saves any edits or additions to your data. Remember, these changes are saved automatically when you move on to the next record.

FIGURE 3-26

When you close a table after having made changes to the datasheet layout, Access displays this alert box, asking whether you want to save your changes.



Save layout changes to Table 'BFCustomers'?

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Move to next field in table	Click in column	Tab *or* Enter	
Move to previous field in table	Click in column	Shift+Tab	
Move to first field in current record	Click in column	Home	
Move to last field in current record	Click in column	End	
Move to first field in first record		Ctrl+Home	
Move to last field in last record		Ctrl+End	
Move to first record in table	Choose Records, Go To, First	Alt+r, g, f	⏮
Move to last record in table	Choose Records, Go To, Last	Alt+r, g, l	⏭
Move to previous record in table	Choose Records, Go To, Previous	↑	◀
Move to next record in table	Choose Go To, Records	↓	▶
Select all records in table	Choose Edit, Select All	Ctrl+a	
Copy data to the Clipboard	Choose Edit, Copy	Ctrl+c	📋
"Paste append" records from Clipboard into open table	Choose Edit, Paste Append		
Switch between navigating and editing		F2	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select record	Click on record selector *or* Choose Edit, Select Record	Alt+e, l	
Select column	Click on column selector		
Delete character to right of insertion point		Del	
Delete character to left of insertion point		Bksp	
Undo changes to current field	Choose Edit, Undo Current Current Field	Esc	✗
Undo changes to current record	Choose Edit, Undo Current Record	Esc	✗
Undo most recent change	Choose Edit, Undo	Ctrl+z	↶
Redo most recent Undo operation	Choose Edit, Redo	Ctrl+z	↶
Display Zoom window for adding or editing text		Shift+F2	
Duplicate value in current field of previous record		Ctrl+'	
Open Find dialog box	Choose Edit, Find	Ctrl+f	🔍
Open Replace dialog box	Choose Edit, Replace	Ctrl+h	
Narrow or widen column	Drag on column's left column border		

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Increase or decrease row height	Drag on any border between record selectors		
Move one or more columns	Select column(s) and drag on column selector		
Hide one or more columns	Select column(s) and choose Format, Hide Columns	Alt+o, h	
Open Show Columns dialog box	Choose Format, Show Columns	Alt+o, s	
Freeze one or more columns	Select column(s) and choose Format, Freeze Columns	Alt+o, z	
Unfreeze all frozen columns	Choose Format, Unfreeze All Columns	Alt+o, u	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS

1. Ditto key (Ctrl+')
2. Record selector
3. Frozen column
4. Datasheet
5. Focus
6. Zoom window
7. Reverse video
8. Paste
9. Wildcard
10. Clipboard

DEFINITIONS

- **a.** Temporary storage area in your computer's memory
- **b.** Copy data from Clipboard into current table
- **c.** Character that stands in for one or more characters
- **d.** Term describing current record—record that will be affected by any actions
- **e.** Repeats value from same field of previous record
- **f.** Light text on dark background
- **g.** Column-and-row layout you can use to enter, edit, and view data
- **h.** Column that has been locked into place so that it's always visible on screen
- **i.** Button you can click on to select record
- **j.** Window that lets you view and edit field contents

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. When you "freeze" a column, it means that:

- **a.** You can never move the column to a new location in the datasheet later.
- **b.** You can't enter data into that field.
- **c.** You can't change that column in Table Design view.
- **d.** The column remains in view, even if you scroll to the right.

2. Which text does the ditto key (Ctrl+') repeat?

- **a.** The text in the same field from the previous record
- **b.** All the text from the previous record
- **c.** The text that you just typed
- **d.** The text that you just cut or copied to the Clipboard

3. When you begin typing into a field whose contents are selected:

- **a.** What you type replaces the previous contents of the field.
- **b.** What you type is appended to the previous contents of the field.
- **c.** Access displays an alert box to warn you that the field contents will be overwritten.
- **d.** What you type is inserted in front of the previous contents of the field.

4. When you type values into a Counter field:

- **a.** Access updates the values in all other Counter fields accordingly.
- **b.** Access beeps and doesn't accept input.
- **c.** Access displays an alert box asking whether you want to proceed.
- **d.** Access asks if you want to change the data type of the field.

5. Pressing Ctrl+Home moves you to:

- **a.** The first field in the current record
- **b.** The current field in the first record in the table
- **c.** The first field in the first record in the table
- **d.** The first character in the current field

6. An asterisk in the record selector indicates:

- **a.** This is the last record in the table.
- **b.** This record includes unsaved changes.

   - **c.** This record has the focus.
   - **d.** This is the current record, and it doesn't include unsaved changes.

7. You can use the Copy command and then the Paste Append command to:
   - **a.** Move data from any other file into an Access table
   - **b.** Move data from any Access table into any other Access table
   - **c.** Move spreadsheet data into an Access table
   - **d.** Move data from one Access table into another Access table that has an identical structure

8. Choosing the Last Record navigation button:
   - **a.** Moves you to the last record without switching to a different field
   - **b.** Moves you to the last field in the last record
   - **c.** Moves you to the first field in the last record
   - **d.** Creates a new, blank record at the end of the open table

9. What method of navigating through a table changes which records you see but not which record has the focus?
   - **a.** Navigation buttons
   - **b.** Scroll bars
   - **c.** Menu commands
   - **d.** Keyboard techniques (Ctrl+End and so on)

10. When a column is frozen:
    - **a.** You can't move it.
    - **b.** You can't see it.
    - **c.** You can't enter values into it.
    - **d.** It remains visible at all times, no matter where you scroll.

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

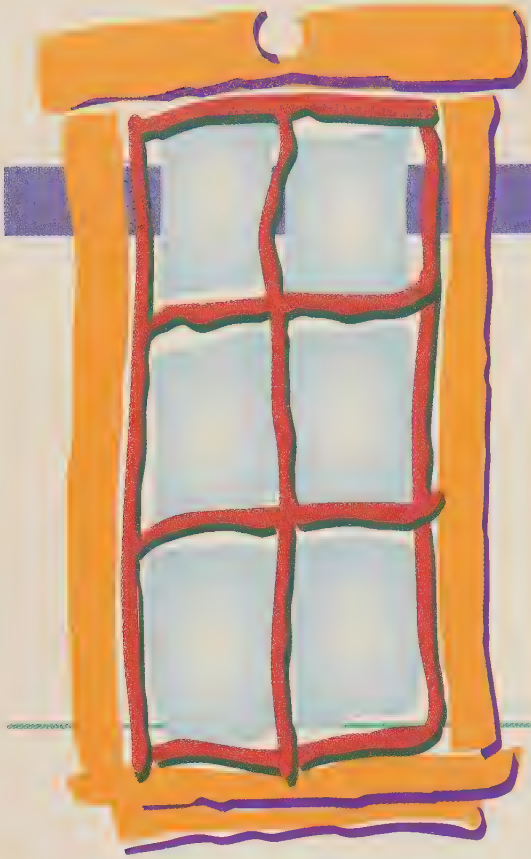
1. Describe what first step you'd take to edit the current field without removing its original contents, assuming that the field is selected. After you had finished editing the field, what two steps would you need to take to move quickly to the first field of the first record in the table.
2. Describe how data is saved in Access. When might you use the Edit, Save Record command?

3. Under what circumstances might you increase the height of rows in Datasheet view? When might you use the Zoom window instead?
4. What command do you use to reverse all changes you've made to the current record? What if you've just saved the record—then what command do you use to reverse the changes?
5. Briefly describe the advantages and disadvantages of using the Replace button rather than Replace All button in the Replace dialog box.
6. If you know that someone lives on Riverside Drive but don't know their street number, which option would you pick from the Where drop-down list box in the Find dialog box? (Hint: The available options are Any Part Of Field, Match Whole Field, and Start of Field.)
7. How do you ensure that your changes to the datasheet layout are retained?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Use the Find feature to find all the records with the last name of Zheng in the BFCustomers table. First, move to the top of the table by using Ctrl+Home. Then, in the Find dialog box, choose the Up option under Direction. Use the Find Next button to move to all the records containing the last name in question, noting the order in which Access tracks down the records.
2. Use the Hide feature to hide all columns in the BFCustomers table except for LastName, FirstName, PhoneNumber, and Notes. Then rearrange the columns so that FirstName is the left-most column. Widen the Notes column so that it displays as much text as possible. Lastly, restore the Datasheet view window to its original state. (Hint: You could bring the hidden columns back into view, move the First Name column back to its original position, and narrow the Notes column, but there's an easier way to do this all at once.)
3. Retrieve all the data from the BFOrd table on the Student Data Disk and place it in the BFOrders table that you created in Lesson 2. If you're not sure how to proceed, reread the guided activity section "Retrieve Data from the Student Data Disk" on page 70 of this lesson. You should complete this exercise so that you can follow along in later lessons; if not, however, you can always retrieve BFOrders from the FRUITFUL database on the Student Data Disk.
4. Retrieve all the data from the BFFruit table on the Student Data Disk and place it in the BFFruits table that you created in Lesson 2. If you don't create this table now, you can always retrieve it from the FRUITFUL database on the Student Data Disk later.



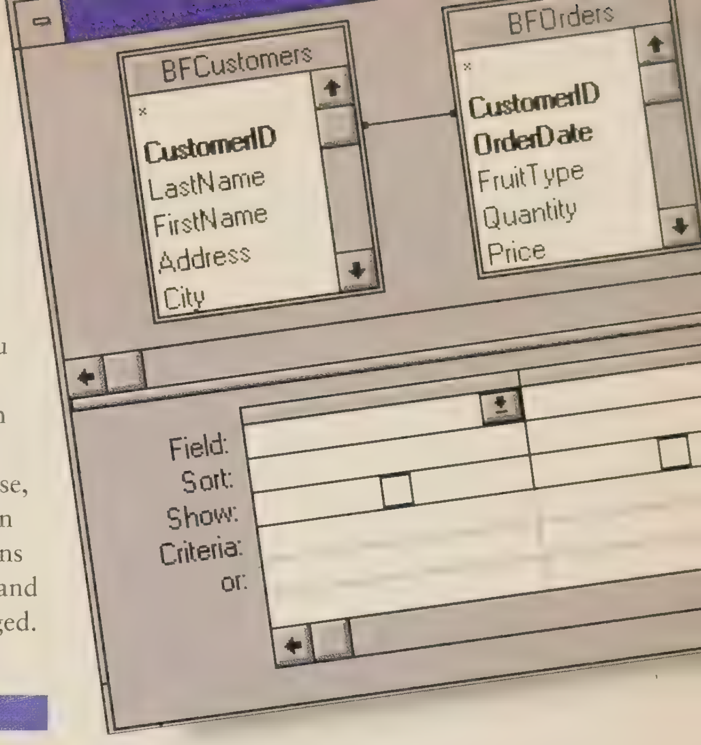
LESSON 4

RETRIEVING THE DATA YOU NEED: SORTING AND SELECTING RECORDS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Use the Quick Sort commands to effortlessly sort your data into alphabetical, numerical, or chronological order.*
- *Use filters to sort the data in a single table.*
- *Devise selection criteria to select specified subsets of your data.*
- *Use selection criteria in filters to select particular data from a single table.*
- *Design basic queries that display and sort selected fields from a table or query.*
- *Use selection criteria in queries to select particular data from a table or query.*
- *Edit the data in a query's dynaset.*
- *Save your queries.*
- *Join tables so you can construct queries based on them.*
- *Create queries to sort and select the data from multiple tables.*



This lesson introduces the techniques for sorting your data into the desired order and selecting just the records you need. You learn about everything from the Quick Sort buttons, which enable you to sort your data with a single click of the mouse, to queries, with which you can devise very detailed instructions about what data you require and how you'd like it to be arranged.

SORTING AND SELECTING DATA

In the previous lessons, you devoted a considerable amount of energy to setting up tables and gathering data into them. But no matter how well you've thought out your table structures, this raw data may not prove to be all that useful, especially as your database accumulates more and more information. In this lesson, you'll begin to learn how to make sense of your data. You'll discover several ways to **sort** your data—rearranging records into alphabetical, numerical, or chronological order. You'll also find out how to **select** the data you need—extracting specified subsets of it based on criteria that you define. You might want to pick out all customers who live in California, for example, or all orders placed after some designated date.

For both sorting and selecting data, Access is immeasurably more useful than even the most well-organized manual system. In a manual system, you can sort in only one way unless you create duplicate sets of data. You might arrange your records in alphabetical order by customer last name, for instance. In Access, by contrast, you can sort the same set of data in any number of ways. You could sort by last name, by date joined, and by ZIP code, and could then consult the sorted data that best fit the task at hand. The same applies to extracting data. In a manual system, pulling out just the records you need can be a laborious task. In Access, with a little knowledge you can select the precise data you need, and can also extract many different subsets of the same data.

This lesson first describes the Quick Sort commands, which enable you to sort the data in a single table. Next you'll learn how to create filters to both sort and select the data from a single table. Lastly, you'll learn about queries. Remember, queries are a way of asking questions about your data. You can use queries to both sort and select data, and, as you'll learn, you can build queries that ask questions of multiple tables as well as single tables.

TAKING ADVANTAGE OF THE QUICK SORT COMMANDS

Access automatically arranges the data in your tables according to the value in the primary key. In the BFCustomers table, for instance, the customers are arranged in order by customer ID, with customer 1 appearing before customer 2, and so on. There will undoubtedly be times, however, when you want to view your data in some other sequence—maybe in order by last name or by ZIP code. You can sort records by using filters and queries, both of which you'll learn about later in this lesson. But if you just want to perform a simple sort based on one or more fields in a table—without extracting any data or concealing any fields—you can use the Quick Sort commands.

Before you try out the Quick Sort commands, you should know something about how Access sorts data. You can sort data into either ascending or descending order, and can sort on any fields except for Memo and OLE Object fields. Access sorts Text fields into alphabetical order, considers lower- and uppercase letters to be equivalent, and places digits before letters. An ascending sort arranges data from A to Z, and a descending sort arranges it from Z to A. Access sorts Number or Currency fields into numerical order. In this case, an ascending sort places lower values first and higher values last; a descending sort goes from higher to lower values. Finally, Access sorts Date/Time fields into chronological order. An ascending sort places the earliest dates first and the most recent dates last; a descending sort places the most recent dates first, and goes backward in time from there.

QUICK-SORT YOUR TABLE

Here you'll experiment with the Quick Sort commands, seeing how to rearrange the records in the BFCustomers table in a variety of ways.

1. Get into Access, if you're not already there, and open the FRUITFUL Database window.
2. Double-click on BFCustomers to open the BFCustomers table.

   You'll see the BFCustomers table in Datasheet view, as shown in Figure 4-1.

3. Click anywhere within the LastName field and then click on the Sort Ascending toolbar button or choose Records, Quick Sort, Ascending.

   Access rearranges the records in the table, displaying them in ascending order by last name, as shown in Figure 4-2.

NOTE

The sort orders established by the Quick Sort commands are not retained when you close the table, so you don't need to worry about rearranging your data and not being able to return it to its original state.

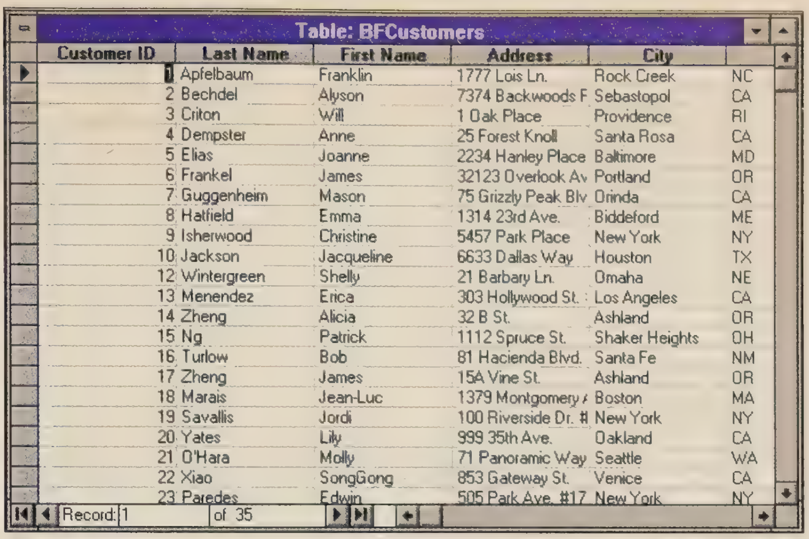


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	
1	Apfelbaum	Franklin	1777 Lois Ln.	Rock Creek	NC
2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA
3	Criton	Will	1 Oak Place	Providence	RI
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
5	Elias	Joanne	2234 Hanley Place	Baltimore	MD
6	Frankel	James	32123 Overlook Av	Portland	OR
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
9	Isherwood	Christine	5457 Park Place	New York	NY
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
12	Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE
13	Menendez	Erica	303 Hollywood St. :	Los Angeles	CA
14	Zheng	Alicia	32 B St.	Ashland	OR
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
16	Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM
17	Zheng	James	15A Vine St.	Ashland	OR
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY
20	Yates	Lily	999 35th Ave.	Oakland	CA
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA
22	Xiao	SongGong	853 Gateway St.	Venice	CA
23	Paredes	Edwin	505 Park Ave. #17	New York	NY

Record: 1 of 35

FIGURE 4-1

When you open the BFCustomers table, the records are arranged in CustomerID order, since that field is the primary key.

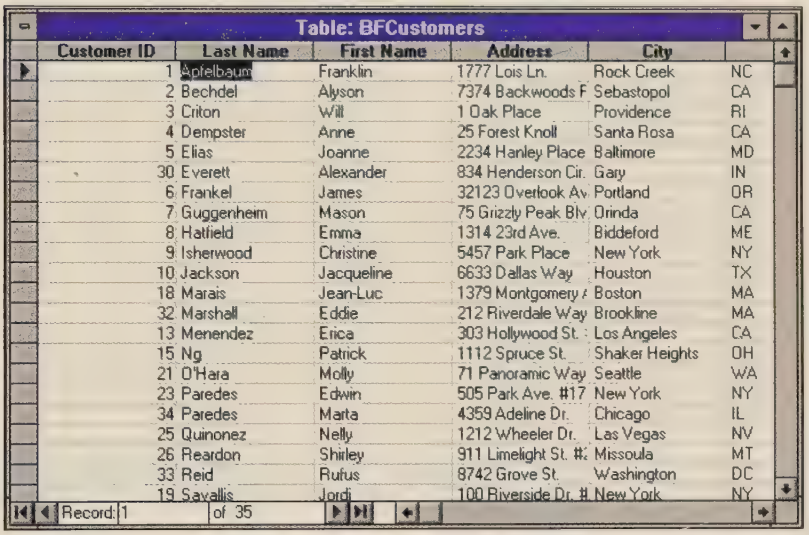


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	
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2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA
3	Criton	Will	1 Oak Place	Providence	RI
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
5	Elias	Joanne	2234 Hanley Place	Baltimore	MD
30	Everett	Alexander	834 Henderson Cir.	Gary	IN
6	Frankel	James	32123 Overlook Av	Portland	OR
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
8	Hatfield	Emma	1314 23rd Ave.	Biddeford	ME
9	Isherwood	Christine	5457 Park Place	New York	NY
10	Jackson	Jacqueline	6633 Dallas Way	Houston	TX
18	Marais	Jean-Luc	1379 Montgomery /	Boston	MA
32	Marshall	Eddie	212 Riverdale Way	Brookline	MA
13	Menendez	Erica	303 Hollywood St. :	Los Angeles	CA
15	Ng	Patrick	1112 Spruce St.	Shaker Heights	OH
21	O'Hara	Molly	71 Panoramic Way	Seattle	WA
23	Paredes	Edwin	505 Park Ave. #17	New York	NY
34	Paredes	Marta	4359 Adeline Dr.	Chicago	IL
25	Quinonez	Nelly	1212 Wheeler Dr.	Las Vegas	NV
26	Reardon	Shirley	911 Limelight St. #:	Missoula	MT
33	Reid	Rufus	8742 Grove St.	Washington	DC
19	Savallis	Jordi	100 Riverside Dr. #	New York	NY

Record: 1 of 35

FIGURE 4-2

When you click in the LastName field and click on the Sort Ascending toolbar button or choose Records, Quick Sort, Ascending, Access arranges the records in the table into ascending order by last name, as shown here.

4. Scroll down through the records and notice that, when there are duplicate last names, the first names are not in any kind of order.

5. Drag over their column selectors to select both the LastName and FirstName fields; then click on the Sort Ascending toolbar button or choose Records, Quick Sort, Ascending.

   Access sorts the records in order by last name, and, where there are duplicate last names, sorts the records in order by first name. The Smiths and the Zhengs are now in alphabetical order by first as well as last name. When you sort on more than one field, Access sorts first by the leftmost field, then by the field to its right, and so on.

6. Now click anywhere within the ZipCode field and click on the Sort Descending toolbar button or choose Records, Quick Sort, Descending.

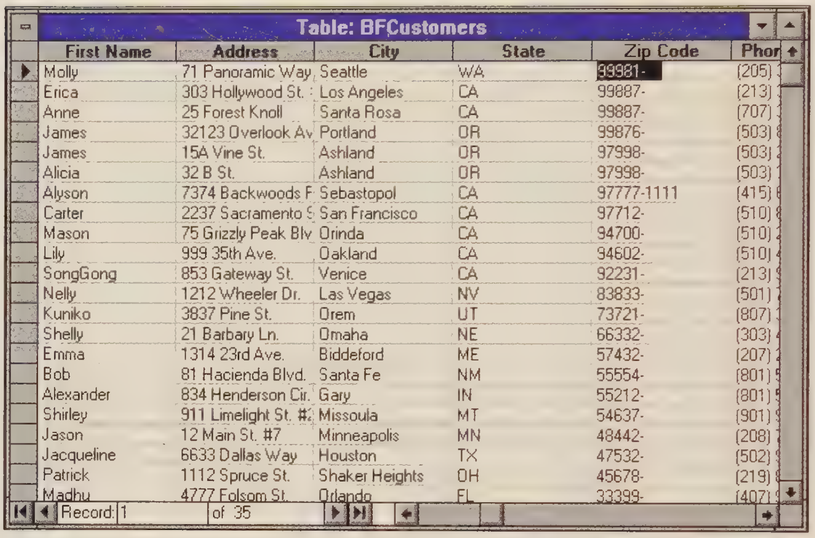
   As shown in Figure 4-3, Access rearranges the records in order by ZIP code, with larger numbers first and smaller numbers last.

7. Now click anywhere within the DateJoined field and click on the Sort Descending toolbar button.

   Access arranges the records in order by date joined. Notice that the most recent dates are displayed first, as shown in Figure 4-4. To see the earliest dates first, instead choose an ascending sort.

FIGURE 4-3

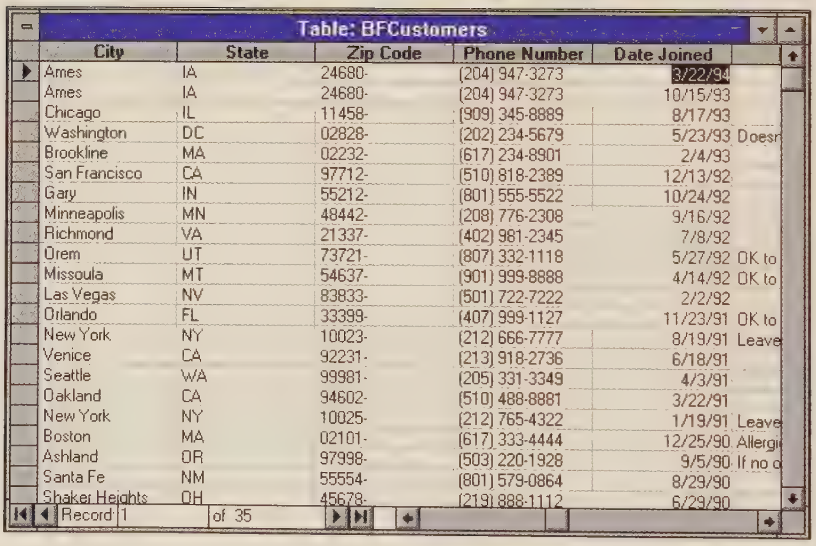
When you click in the ZipCode field and click on the Sort Descending toolbar button or choose Records, Quick Sort, Descending, Access arranges the records in the table into descending order by ZIP code, as shown here.



First Name	Address	City	State	Zip Code	Phor
Molly	71 Panoramic Way	Seattle	WA	99981-	(205)
Erica	303 Hollywood St.	Los Angeles	CA	99887-	(213)
Anne	25 Forest Knoll	Santa Rosa	CA	99887-	(707)
James	32123 Overlook Av	Portland	OR	99876-	(503)
James	15A Vine St.	Ashland	OR	97998-	(503)
Alicia	32 B St.	Ashland	OR	97998-	(503)
Alyson	7374 Backwoods F	Sebastopol	CA	97777-1111	(415)
Carter	2237 Sacramento	San Francisco	CA	97712-	(510)
Mason	75 Grizzly Peak Blv	Orinda	CA	94700-	(510)
Lily	999 35th Ave.	Oakland	CA	94602-	(510)
SongGong	853 Gateway St.	Venice	CA	92231-	(213)
Nelly	1212 Wheeler Dr.	Las Vegas	NV	83833-	(501)
Kuniko	3837 Pine St.	Orem	UT	73721-	(807)
Shelly	21 Barbary Ln.	Omaha	NE	66332-	(303)
Emma	1314 23rd Ave.	Biddeford	ME	57432-	(207)
Bob	81 Hacienda Blvd.	Santa Fe	NM	55554-	(801)
Alexander	834 Henderson Cir.	Gary	IN	55212-	(801)
Shirley	911 Limelight St. #	Missoula	MT	54637-	(901)
Jason	12 Main St. #7	Minneapolis	MN	48442-	(208)
Jacqueline	6633 Dallas Way	Houston	TX	47532-	(502)
Patrick	1112 Spruce St.	Shaker Heights	OH	45678-	(219)
Madhu	4777 Folsom St.	Orlando	FL	33399-	(407)

FIGURE 4-4

When you sort a Date field into descending order, the most recent dates are shown first and the earliest dates are shown last, as shown here. If you want to reverse this order, choose an ascending sort.



City	State	Zip Code	Phone Number	Date Joined	
Ames	IA	24680-	(204) 947-3273	3/22/94	
Ames	IA	24680-	(204) 947-3273	10/15/93	
Chicago	IL	11458-	(909) 345-8889	8/17/93	
Washington	DC	02828-	(202) 234-5679	5/23/93	Does
Brookline	MA	02232-	(617) 234-8901	2/4/93	
San Francisco	CA	97712-	(510) 818-2389	12/13/92	
Gary	IN	55212-	(801) 555-5522	10/24/92	
Minneapolis	MN	48442-	(208) 776-2308	9/16/92	
Richmond	VA	21337-	(402) 981-2345	7/8/92	
Orem	UT	73721-	(807) 332-1118	5/27/92	OK to
Missoula	MT	54637-	(901) 999-8888	4/14/92	OK to
Las Vegas	NV	83833-	(501) 722-7222	2/2/92	
Orlando	FL	33399-	(407) 999-1127	11/23/91	OK to
New York	NY	10023-	(212) 666-7777	8/19/91	Leave
Venice	CA	92231-	(213) 918-2736	6/18/91	
Seattle	WA	99981-	(205) 331-3349	4/3/91	
Oakland	CA	94602-	(510) 488-8881	3/22/91	
New York	NY	10025-	(212) 765-4322	1/19/91	Leave
Boston	MA	02101-	(617) 333-4444	12/25/90	Allergi
Ashland	OR	97998-	(503) 220-1928	9/5/90	If no
Santa Fe	NM	55554-	(801) 579-0864	8/29/90	
Shaker Heights	OH	45678-	(219) 888-1112	6/29/90	

8. Click anywhere in the CustomerID field and click on the Sort Ascending toolbar button.

   Access returns the records to their original sort order—in ascending order by the primary key field, CustomerID. You can also return a table to its original state just by closing the table, since the sort order established by a Quick Sort command is not retained.

9. Double-click on the datasheet's Control-menu box to close the BFCustomers table.

FILTERING YOUR DATA

If you just want to sort the data in a single table, you can perform a Quick Sort. But if you want to do more—say you want to sort your records *and* view only those records for customers in California—a Quick Sort command won't do the job. Instead, you may want to use a filter. A **filter** is pretty much what its name implies: a way of filtering, or sifting, your data to see only a selected portion of it. You can also use filters to sort your data into the desired order. Like Quick Sort commands, filters only work on the data in a single table. If you want to sort and select data in multiple tables, you need to use queries, which you'll learn about later in this lesson.

You define filters in the Filter Design window—an intuitive and graphical environment that permits you to choose the fields on which to sort, pick an ascending or descending sort order, and define a whole slew of selection criteria. **Selection criteria** are merely instructions telling Access exactly which records you want to garner from the database. In the next guided activity, you'll build some simple filters to get acquainted with the Filter Design window. After that, you'll learn a bit more about putting together selection criteria that will enable you to zero in on just the data you need.

NOTE *Even when a filter is in effect, you can work in the datasheet much as before. You can add and edit data; hide, move, and resize datasheet columns; and more.*

GET TO KNOW THE FILTER DESIGN WINDOW

This section illustrates how to select fields on which to sort and how to choose a sort order in the Filter Design window.

1. For starters, reopen the BFCustomers table by double-clicking on its name in the FRUITFUL Database window.

   Scan the table, noticing that it has reverted to its original sort order: Records are arranged in ascending order by customer ID number.

2. Choose Records, Edit Filter/Sort or click on the Edit Filter/Sort toolbar button.

   You'll see the Filter Design window shown in Figure 4-5. Here is where you choose the fields on which to sort, the sort order, and any selection criteria.

3. Observe the top pane of the Filter Design window. It includes a field list of all fields in the current table; this is where you choose the fields on which to base the sort. (Any fields displayed in boldface in the field list are the primary-key fields.)

4. Observe the bottom pane of the Filter Design window. This grid lets you choose the fields on which to sort (the Field row), select a sort order (the Sort row), and specify selection instructions (the Criteria row, the Or row, and any rows below that).

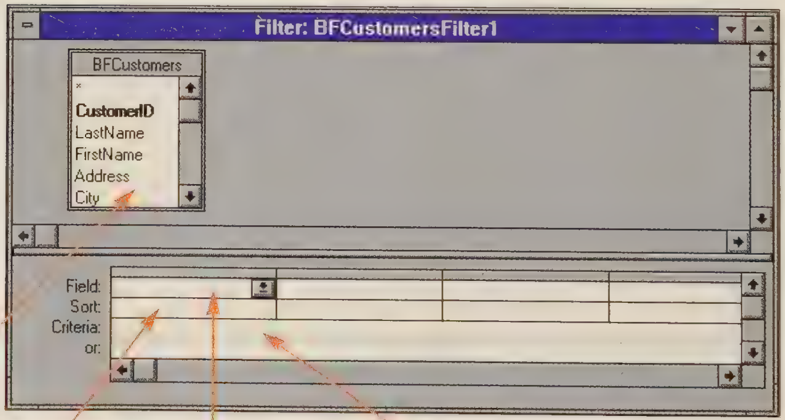
5. When setting up a filter, your first task is to determine the fields upon which to base your sort. Click on the LastName field to select it, drag it down to the leftmost column of the Field row, and then release the mouse button.

   As you drag, the mouse pointer changes into a small box to represent the field being dragged. When you release the mouse button, Access deposits the field in the designated column.

NOTE *The fields listed in the grid do not represent the fields to be included in the filtered version of the table (all fields are always displayed). They simply represent the fields on which any sorting or selection instructions will be based.*

6. Double-click on the FirstName field.

   Access automatically adds this field to the grid, just to the right of the LastName field. Because the LastName field is to the left of the FirstName field, Access will sort first by last name and then by first name.



List of fields in current table.

Choose sort order here.

Choose fields on which to sort here.

Enter any selection criteria here.

FIGURE 4-5

When you open a table and then choose Records, Edit Filter/Sort or click on the Edit Filter/Sort toolbar button, Access displays the Filter Design window shown here.

7. Click in the Field row just to the right of the FirstName field and then click on the downward-pointing arrow that appears.

   Access displays a drop-down list of all fields in the table, as shown in Figure 4-6. You can choose the desired field from the list.

8. Click on State in the drop-down list.

   Access closes the list, displaying the State field in the Field row.

9. Once you've selected the desired fields, you need to choose a sort order. Click in the Sort row directly below the LastName field, and then click on the downward-pointing arrow that appears.

   Access displays a drop-down list of choices, as shown in Figure 4-7.

10. Choose Ascending to sort last names into ascending order.

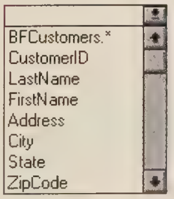
    Access closes the list box, displaying the Ascending option in the Sort row for the LastName field.

11. Click in the Sort row for the FirstName field and again choose the Ascending option. You're going to sort the records in ascending alphabetical order, first by last name and then (for records with same last name) by first name.

12. You can also enter selection criteria in the Criteria row or the rows below it. For now, click in the Criteria row under the State field and enter **CA**. You're telling Access to display only those records with the value CA in the State field.

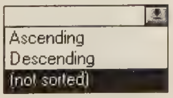
TIP *The text that you enter in the Criteria row is not case-sensitive, which simply means that you can enter* ca, CA, *or even* cA *and Access will find all records with the value CA in the State field.*

FIGURE 4-6
When you click anywhere in the Field row and then click on the downward-pointing arrow, Access displays a list box containing all fields in the table, as shown here.



BFCustomers.*
CustomerID
LastName
FirstName
Address
City
State
ZipCode

FIGURE 4-7
Clicking in the Sort row and then clicking on the downward-pointing arrow displays this list of sort options.



Ascending
Descending
(not sorted)

13. Now choose Records, Apply Filter/Sort or click on the Apply Filter/Sort toolbar button.

As shown in Figure 4-8, Access puts the filter into place, returning you to Datasheet view but displaying only the designated records, and sorting them into the chosen order. The FLTR indicator in Status bar is a reminder that you are looking at a "filtered" view of your data.

14. Scroll to the right, noticing that even though the data is filtered, all fields in the table are displayed, and they're displayed in the order specified by the table design. If you want to hide or rearrange columns, use the techniques for customizing the datasheet you learned in Lesson 3.

15. Choose Records, Edit Filter/Sort or click on the Edit Filter/Sort toolbar button.

Access displays the Filter Design window, with your previous filter instructions still in place. Notice that Access automatically enclosed the CA selection criteria within quotes. These delimiters remind Access that this is a text value. If you enter dates as selection criteria, Access automatically encloses them within pound-sign (#) delimiters so that it can recognize them as dates.

16. Click in the column selector above the State column to select that column. Then, with the mouse pointer still over the column selector, drag that column all the way to the left, releasing the mouse button when the heavy vertical line is just to the left of the LastName field.

Access moves the State field to the leftmost column in the grid; remember, this column represents the field on which Access sorts first, but is not necessarily the one that Access displays first in Datasheet view.

17. Now drag over the column selectors for the LastName and FirstName fields to select those two columns, and press Del.

Access deletes the selected columns. This action doesn't delete the FirstName and LastName fields from the datasheet, but simply tells Access that you no longer want to sort based on those fields.

18. Double-click on the DateJoined field.

Access adds the DateJoined field to the grid.

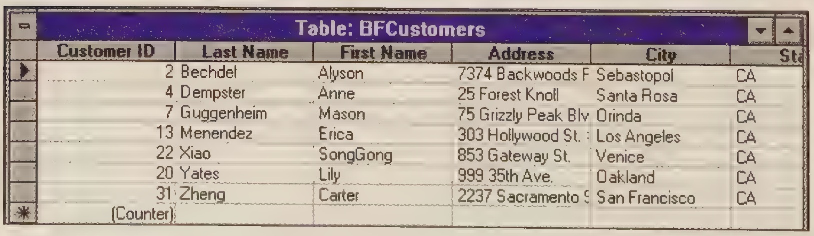


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	Sta
2	Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA
4	Dempster	Anne	25 Forest Knoll	Santa Rosa	CA
7	Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA
13	Menendez	Erica	303 Hollywood St.	Los Angeles	CA
22	Xiao	SongGong	853 Gateway St.	Venice	CA
20	Yates	Lily	999 35th Ave.	Oakland	CA
31	Zheng	Carter	2237 Sacramento	San Francisco	CA
(Counter)					

FIGURE 4-8

When you apply a filter, Access shows the specified records in the designated order. Here all of the records for customers in California are displayed in ascending order by last name.

19. In the Sort row of the DateJoined field, choose the Ascending option. This way, Access will place earlier dates before more recent dates.

20. Delete *CA* from the Criteria row under State—now you want to show all records, not just those of customers from California—and choose Ascending from the Sort row of the State field.

21. Choose Records, Apply Filter/Sort or click on the Apply Filter/Sort toolbar button.

    Access displays a new filtered view of the BFCustomers data. Records are now arranged in ascending order by state; and, within state, they're arranged in chronological order by date joined, as you can see in Figure 4-9.

22. When you're done with the filter, you can bring all records back into view and/or reverse any sorting instructions to return records to their original state. Choose Records, Show All Records or click on the Show All Records toolbar button to clear the filter.

    Access removes the filter, restoring your table to its original state.

SETTING UP SELECTION CRITERIA

As mentioned, you can use selection criteria to tell Access which subset of your data you want to work with. In the preceding guided activity, you used a very simple selection criteria: You entered *CA* in the Criteria row of the State field to have Access display only those records for customers in California. A value that you want Access to match is the simplest form of selection criteria. But you can also specify a wide variety of other selection criteria for extracting records from your tables. In addition, you can employ these selection criteria not only in filters but also in queries.

One thing you can do is combine selection criteria. For instance, you can pull out all customers who both live in California and have the last name Zheng, or all customers who live in either California or Oregon. You can

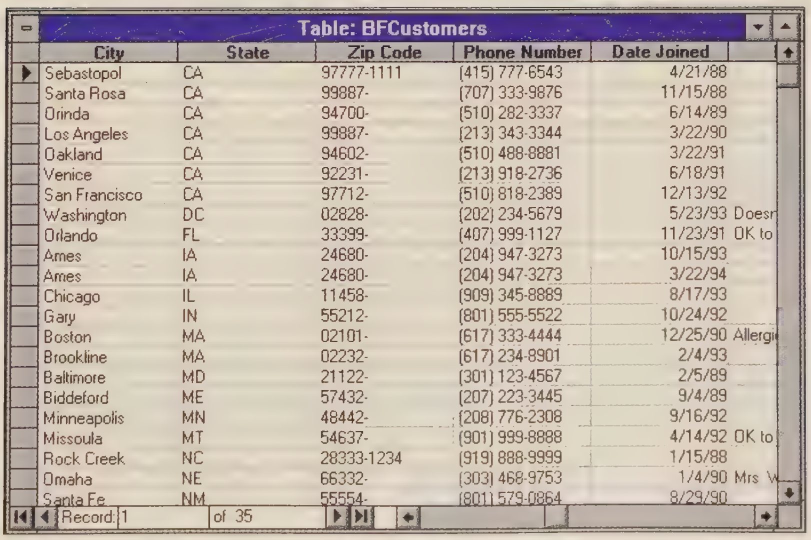


Table: BFCustomers

City	State	Zip Code	Phone Number	Date Joined	
Sebastopol	CA	97777-1111	(415) 777-6543	4/21/88	
Santa Rosa	CA	99887-	(707) 333-9876	11/15/88	
Orinda	CA	94700-	(510) 282-3337	6/14/89	
Los Angeles	CA	99887-	(213) 343-3344	3/22/90	
Oakland	CA	94602-	(510) 488-8881	3/22/91	
Venice	CA	92231-	(213) 918-2736	6/18/91	
San Francisco	CA	97712-	(510) 818-2389	12/13/92	
Washington	DC	02828-	(202) 234-5679	5/23/93	Doesn
Orlando	FL	33399-	(407) 999-1127	11/23/91	OK to
Ames	IA	24680-	(204) 947-3273	10/15/93	
Ames	IA	24680-	(204) 947-3273	3/22/94	
Chicago	IL	11458-	(909) 345-8889	8/17/93	
Gary	IN	55212-	(801) 555-5522	10/24/92	
Boston	MA	02101-	(617) 333-4444	12/25/90	Allergi
Brookline	MA	02232-	(617) 234-8901	2/4/93	
Baltimore	MD	21122-	(301) 123-4567	2/5/89	
Biddeford	ME	57432-	(207) 223-3445	9/4/89	
Minneapolis	MN	48442-	(208) 776-2308	9/16/92	
Missoula	MT	54637-	(901) 999-8888	4/14/92	OK to
Rock Creek	NC	28333-1234	(919) 888-9999	1/15/88	
Omaha	NE	66332-	(303) 468-9753	1/4/90	Mrs W
Santa Fe	NM	55554-	(801) 579-0864	8/29/90	

FIGURE 4-9

Here are the results of setting up a filter to sort records first in ascending order by state, and then in ascending order by date joined. Notice that the California customers are listed in the order in which they joined, from earliest to most recent.

also hunt for a range of values instead of one particular value. You'd do this, for instance, to find people who joined after a certain date, to select people who live in a certain area (you could tell Access to find a range of ZIP codes), or to pull out all customers whose names fall in the first half of the alphabet. You can also track down values that do not meet specified criteria. For example, you can stipulate that you want to view all customers *except for* New Yorkers.

To construct many of these types of selection criteria, you must use the comparison operators. Don't panic at the thought of possibly having to perform advanced mathematics, however. Most of the comparison operators, which are listed in Table 4-1, are straightforward enough and will probably seem familiar if you had any math classes after grade school.

TABLE 4-1: COMPARISON OPERATORS

OPERATOR	DESCRIPTION
=	Equal to
<>	Not equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
Between...And	Between two specified values
Is Null	Doesn't contain data
Like	Matches a pattern containing wildcard characters

As an example, you could enter the expression <>CA in the Criteria row of the State field to find all customers who do *not* live in California. Or you could enter >=2/5/92 under the DateJoined field to find all members who joined on or after 2/5/92, or < 2/5/92 to find all members who joined before (but not on) 2/5/92. If you wanted to find customers whose ZIP codes were between 00000 and 55555, you could enter Between 00000 And 55555 under the ZipCode field.

USE SELECTION CRITERIA IN FILTERS

In this guided activity, you'll define some filters that select records based on criteria that you specify.

1. If you completed the last guided activity, you should have the BFCustomers table open with all records displayed in order by CustomerID field. At this point, choose Records, Edit Filter/Sort or click on the Edit Filter/Sort toolbar button.

   Access displays the Filter Design window with your previous filter still in place.

2. Choose Edit, Clear Grid.

   Access deletes the filter you created earlier.

3. Double-click on the State field in the field list to place that field in the grid, choose Ascending from the Sort row below, and enter **OR** in the Criteria row to have Access find only records for customers in Oregon.

4. Now drag the LastName field down to the grid, just to the right of the State field, and enter **Zheng** in the Criteria row. You want Access to find customers who live in Oregon *and* who have last names of Zheng.

5. Click on the Apply Filter/Sort toolbar button or choose Records, Apply Filter/Sort.

   Access displays the filtered view of your data shown in Figure 4-10. Note that the only customers selected both *live in Oregon* and *have last names of Zheng. When you specify two selection criteria on the same row, Access narrows the search, finding only records that meet both conditions. If a customer meets one but not both of the conditions (lives in Oregon but is not named Zheng, or is named Zheng but does not live in Oregon), the record is not included.*

6. Click on the Edit Filter/Sort toolbar button to return to the Filter Design window.

7. Delete "Zheng" from the Criteria row of the LastName field and then enter **Zheng** in the Or row directly beneath it. Now you're asking Access to find records for customers who *either* live in Oregon *or* are named Zheng.

8. Choose Records, Apply Filter/Sort or click on the Apply Filter/Sort toolbar button.

   You'll see the datasheet shown in Figure 4-11, which lists all customers who either live in Oregon, are named Zheng, or both. When you specify selection criteria on different rows, Access broadens the search, finding records that meet either of the conditions. Carter Zheng was selected because of his last name, even though he doesn't live in Oregon, and James Frankel was selected because he lives in Oregon, even though his last name is not Zheng.

9. You can also create criteria that make use of conditional operators to find a *range* of values rather than one or more exact values. Click on the Edit Filter/Sort toolbar button to return to the Filter Design window, and choose Edit, Clear Grid to begin building a new filter from scratch.

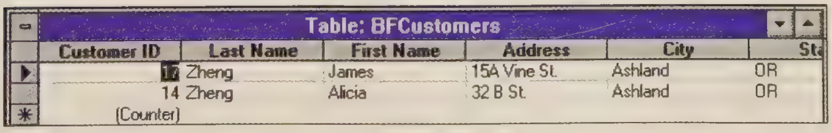


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	St
16	Zheng	James	15A Vine St.	Ashland	OR
14	Zheng	Alicia	32 B St.	Ashland	OR
(Counter)					

FIGURE 4-10

When you specify two selection criteria in the same row, Access only selects records for which both conditions are true.

FIGURE 4-11

When you specify selection criteria on different rows, Access finds records for which either one or the other condition is true.

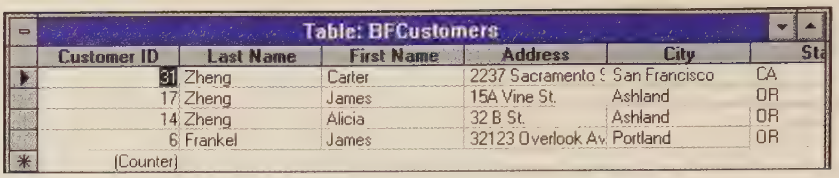


Table: BFCustomers

Customer ID	Last Name	First Name	Address	City	Sta
31	Zheng	Carter	2237 Sacramento	San Francisco	CA
17	Zheng	James	15A Vine St.	Ashland	OR
14	Zheng	Alicia	32 B St.	Ashland	OR
6	Frankel	James	32123 Overlook Av	Portland	OR
(Counter)					

10. Double-click on the DateJoined field and select an Ascending sort.

11. Click on the Criteria row underneath the DateJoined field and enter **>=3/22/91**. You're instructing Access to find all records for customers who joined on or after the date 3/22/91.

12. Click on the Apply Filter/Sort toolbar button to see the effects of the filter.

Access displays the view of your data shown in Figure 4-12. As you can see, only customers who joined on or after 3/22/91 have been included, and records are arranged in ascending order by date.

13. Return to the Filter Design window by clicking on the Edit Filter/Sort toolbar button, and change the criteria to **<3/22/91**

14. Click on the Apply Filter/Sort toolbar button.

Access displays the view of your data shown in Figure 4-13. In this case, only customers who joined before 3/22/91 have been included; the customer who joined on 3/22/91 is not listed.

15. Sometimes you may want to specify a range of values between specific beginning and ending values. To try this, first click on the Edit Filter/Sort toolbar button to open the Filter Design window, click on the column selector of the DateJoined field, and press Del to delete it.

FIGURE 4-12

You can use selection criteria to select a range of values. Here, for example, Access has selected all records of customers who joined on or after 3/22/91.

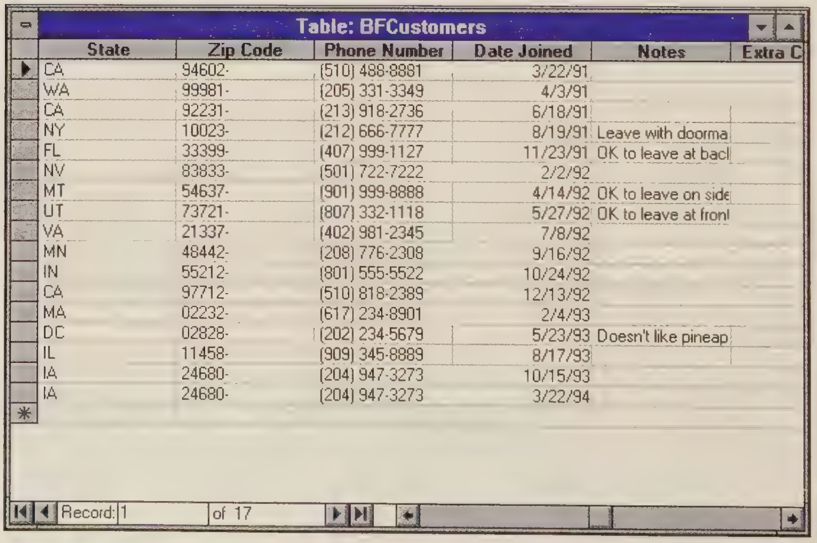
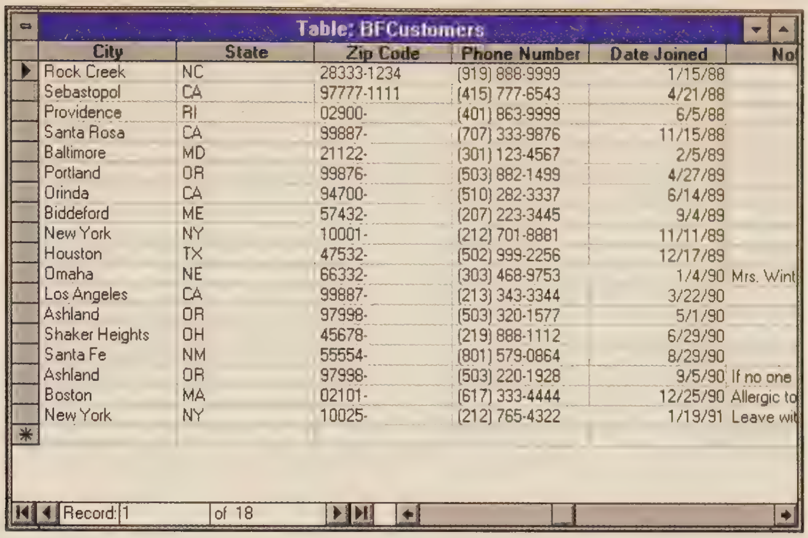


Table: BFCustomers

State	Zip Code	Phone Number	Date Joined	Notes	Extra C
CA	94602-	(510) 488-8881	3/22/91		
WA	99981-	(205) 331-3349	4/3/91		
CA	92231-	(213) 918-2736	6/18/91		
NY	10023-	(212) 666-7777	8/19/91	Leave with doorma	
FL	33399-	(407) 999-1127	11/23/91	OK to leave at bacl	
NV	83833-	(501) 722-7222	2/2/92		
MT	54637-	(901) 999-8888	4/14/92	OK to leave on side	
UT	73721-	(807) 332-1118	5/27/92	OK to leave at fronl	
VA	21337-	(402) 981-2345	7/8/92		
MN	48442-	(208) 776-2308	9/16/92		
IN	55212-	(801) 555-5522	10/24/92		
CA	97712-	(510) 818-2389	12/13/92		
MA	02232-	(617) 234-8901	2/4/93		
DC	02828-	(202) 234-5679	5/23/93	Doesn't like pineap	
IL	11458-	(909) 345-8889	8/17/93		
IA	24680-	(204) 947-3273	10/15/93		
IA	24680-	(204) 947-3273	3/22/94		



City	State	Zip Code	Phone Number	Date Joined	No
Rock Creek	NC	28333-1234	(919) 888-9999	1/15/88	
Sebastopol	CA	97777-1111	(415) 777-6543	4/21/88	
Providence	RI	02900-	(401) 863-9999	6/5/88	
Santa Rosa	CA	99887-	(707) 333-9876	11/15/88	
Baltimore	MD	21122-	(301) 123-4567	2/5/89	
Portland	OR	99876-	(503) 882-1499	4/27/89	
Orinda	CA	94700-	(510) 282-3337	6/14/89	
Biddeford	ME	57432-	(207) 223-3445	9/4/89	
New York	NY	10001-	(212) 701-8881	11/11/89	
Houston	TX	47532-	(502) 999-2256	12/17/89	
Omaha	NE	66332-	(303) 468-9753	1/4/90	Mrs. Wint
Los Angeles	CA	99887-	(213) 343-3344	3/22/90	
Ashland	OR	97998-	(503) 320-1577	5/1/90	
Shaker Heights	OH	45678-	(219) 888-1112	6/29/90	
Santa Fe	NM	55554-	(801) 579-0864	8/29/90	
Ashland	OR	97998-	(503) 220-1928	9/5/90	If no one
Boston	MA	02101-	(617) 333-4444	12/25/90	Allergic to
New York	NY	10025-	(212) 765-4322	1/19/91	Leave wit

FIGURE 4-13

The selection criteria <3/22/91 caused Access to select all records of customers who joined before (but not on) 3/22/91.

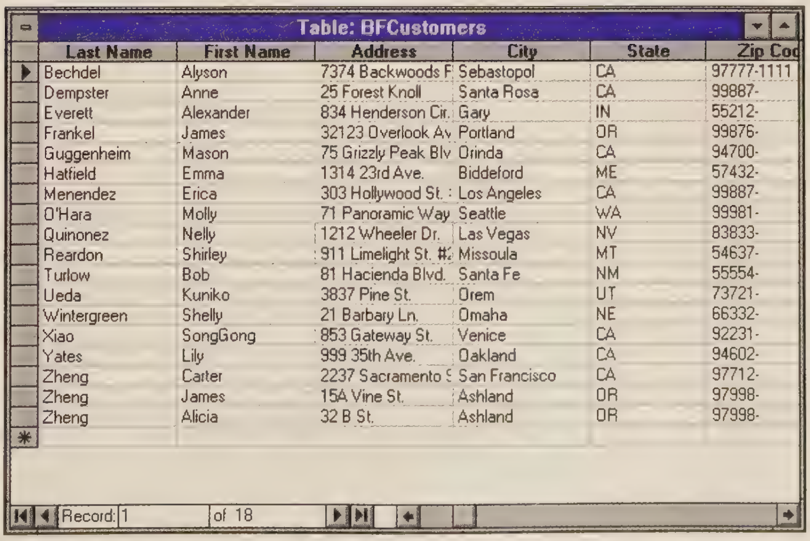
16. Drag the LastName field into the grid and choose an ascending sort order for this field.

17. Double-click on the ZipCode field to add it to the grid, and enter **Between 50000 And 99999** in the Criteria row. You're telling Access to find all ZIP codes between those two specified values.

18. Click on the Apply Filter/Sort toolbar button.

    Access displays the filtered view of your data shown in Figure 4-14. Note that the records are arranged in alphabetical order by last name, but that only records with ZIP codes in the designated range are displayed.

19. You can also instruct Access to exclude specified records. Click on the Edit Filter/Sort toolbar button to return to the Filter Design window, and choose Edit, Clear Grid to erase the previous filter instructions.



Last Name	First Name	Address	City	State	Zip Coc
Bechdel	Alyson	7374 Backwoods F	Sebastopol	CA	97777-1111
Dempster	Anne	25 Forest Knoll	Santa Rosa	CA	99887-
Everett	Alexander	834 Henderson Cir.	Gary	IN	55212-
Frankel	James	32123 Overlook Av	Portland	OR	99876-
Guggenheim	Mason	75 Grizzly Peak Blv	Orinda	CA	94700-
Hatfield	Emma	1314 23rd Ave.	Biddeford	ME	57432-
Menendez	Erica	303 Hollywood St. :	Los Angeles	CA	99887-
O'Hara	Molly	71 Panoramic Way	Seattle	WA	99981-
Quinonez	Nelly	1212 Wheeler Dr.	Las Vegas	NV	83833-
Reardon	Shirley	911 Limelight St. #:	Missoula	MT	54637-
Turlow	Bob	81 Hacienda Blvd.	Santa Fe	NM	55554-
Ueda	Kuniko	3837 Pine St.	Orem	UT	73721-
Wintergreen	Shelly	21 Barbary Ln.	Omaha	NE	66332-
Xiao	SongGong	853 Gateway St.	Venice	CA	92231-
Yates	Lily	999 35th Ave.	Oakland	CA	94602-
Zheng	Carter	2237 Sacramento S	San Francisco	CA	97712-
Zheng	James	15A Vine St.	Ashland	OR	97998-
Zheng	Alicia	32 B St.	Ashland	OR	97998-

FIGURE 4-14

One way to display a range of values is to use the Between...And operator, which lets you specify beginning and ending values. Here the ZIP codes between 50000 and 99999 are displayed; note, however, that the records are sorted by last name rather than by ZIP code.

20. Double-click on the State field to place it in the grid, choose the Ascending sort order, and then enter **<>CA** in the Criteria row. You're instructing Access to find all records *except* those that have the value CA in the State field.

21. Click on the Apply Filter/Sort toolbar button.

    Access displays a filtered view of your data in which the records are arranged in alphabetical order by state, but no records from CA are displayed.

22. You can also instruct Access to find records that match a certain general pattern. Click on the Edit Filter/Sort toolbar button to return to the Filter Design window, and choose Edit, Clear Grid to erase the previous filter instructions.

23. Drag the City field down to the grid and enter **S*** in the Criteria row. The asterisk (*) is a wildcard character that stands in for any number of characters.

24. Press ↑, noting that Access automatically changes your selection criteria to Like "S*".

25. Click on the Apply Filter/Sort toolbar button.

    Access only displays records for customers who live in cities whose names begin with the letter s. *These city names won't be arranged in any particular order, since you didn't choose a sort order while creating the filter.*

26. Double-click on the Control-menu box in Datasheet view to close the table.

Filters are not saved with the table, and it's generally best to use filters to view your data in a different configuration only temporarily. When you want to view a specific set of records in a certain order with any frequency, you should instead build a query. You'll learn about queries next.

DESIGNING BASIC QUERIES

Now that you have some experience with filters under your belt, queries will seem pretty straightforward. Like filters, queries enable you to sort your data in a variety of ways and to extract the data you need by using all types of selection criteria. But queries have several distinct advantages over filters. For one, queries permit you to select which fields are displayed. (Remember, filters let you select which fields to sort on, but don't enable you to conceal fields.) In addition, you can use queries to perform calculations and to work with data from multiple tables. As you'll discover in the next few lessons, you can also use the results of queries in forms and reports. And you can save your queries so you can use them in the future—getting up-to-the-minute responses to questions about the data in your database.

Access supplies a number of special queries called **action queries** that enable you to make global changes to your data. However, this lesson focuses on select queries—queries that you can use to sort, select, and view records from one or more tables. When you run a query, the result is a **dynaset**. This may sound complicated, but really it's not. *Dynaset* is just a fancy word for a subset of your data sorted and selected as spelled out in the query. This subset of data is dynamic—that is, it changes to reflect modifications to the data in your tables, so the data in the dynaset is always up-to-date. Dynasets are also dynamic in that you can often make changes to them and have those changes reflected in the underlying table(s).

NOTE *When working with dynasets, you can modify the datasheet much as you can when working with a table. Among other things, you can move, freeze, and hide columns; change columns widths and row heights; and add and edit data.*

SETTING UP A QUERY

To set up a query, you follow these basic steps:

- Choose the data source (tables or other queries).
- Choose which fields you want to include in the dynaset.
- Choose the sort order and selection criteria.

You set up queries in the Query Design window, which is very similar to the Filter Design window. It has an upper pane that includes lists of fields from one or more tables or queries on which the query will be based. Its lower pane consists of a grid—called the Query-by-Example grid, or **QBE grid**—in which you make decisions about how to sort and select your data, and also about which fields to include in the dynaset.

EXPERIMENT WITH QUERIES

Now you'll experiment with a variety of single-table queries to get your sea legs in Query Design view.

1. You should still be in the FRUITFUL Database window. From here, choose the Query object button.

   Access displays any queries in the FRUITFUL database; currently, there should be none.

2. Choose the New button.

   Access displays the New Query dialog box, as shown in Figure 4-15.

3. Choose the New Query button to begin creating query.

   Access displays the Add Table dialog box, which lists all tables in the open database, as shown in Figure 4-16. Here's where you choose tables and/or queries on which to base your new query.

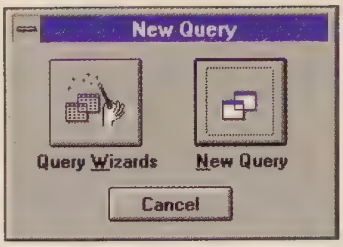


FIGURE 4-15

From this dialog box, you can create queries in the Query Design window or with a Query Wizard.

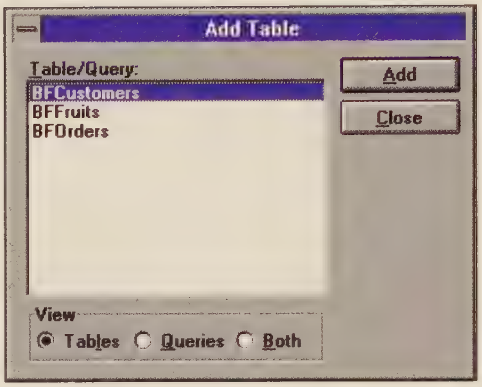


FIGURE 4-16

When you choose the New Query button in the new Query dialog box, Access opens the Query Design window and also displays the Add Table dialog box shown here. This is where you choose which tables or queries to use as the data source for your new query.

4. Double-click on BFCustomers, or highlight its name and click on the Add button.

   Access adds a field list for BFCustomers to the Query Design view that you see in the background.

5. Click on the Close button in the Add Table dialog box.

   Access removes the Add Table dialog box from view, leaving you in the Query Design window, as shown in Figure 4-17. This window closely resembles the Filter Design window, with a field list at the top and a grid at the bottom for entering field names, sorting instructions, and selection criteria.

NOTE

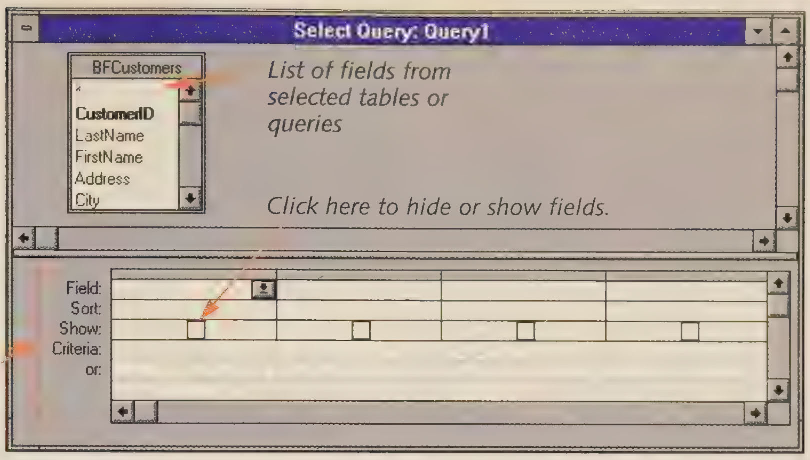
The Add Table dialog box doesn't close automatically, in case you want to add additional tables to Query Design window in preparation for creating multitable queries, as discussed later in this lesson.

6. Double-click on the LastName field.

   Access adds the field name to the QBE grid. Notice that the check box in the Show row is selected automatically; this means that Access will display the LastName field in the dynaset.

7. Click on the FirstName field to select it, and then drag it down into the Field row of the QBE grid.

8. Double-click on the State field and then the PhoneNumber field to place them in the QBE grid.



List of fields from selected tables or queries

Click here to hide or show fields.

QBE grid

FIGURE 4-17
When you close the Add Table dialog box, Access places you in the Query Design window and displays field lists for all tables or queries you selected in the Add Table dialog box.

9. Select Ascending order for the LastName and FirstName fields.
10. In the Criteria row of the State field, enter **CA** to select all records for customers in California.
11. To run the query, choose Query, Run or click on the Run toolbar button.

    Access displays the dynaset shown in Figure 4-18; notice that you see only the selected fields, rather than all fields in the table. Also note that the fields are displayed in the order in which you arranged them in the QBE grid. On both of these counts, queries differ from filters.

12. Now choose View, Query Design or click on the Design View toolbar button.

    Access returns you to the Query Design view.

13. In the State column, deselect the Show check box by clicking on it.

    This lets you select records based on state without displaying the State field in the dynaset.

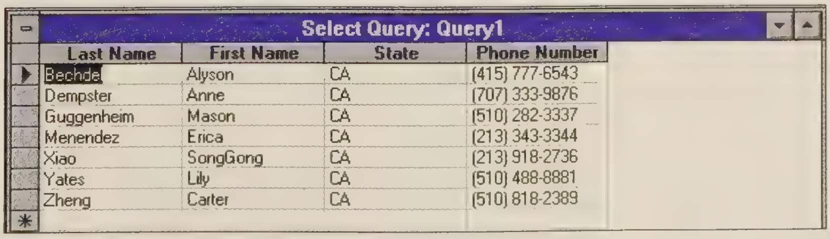
TIP

You can define sorting and selection instructions based on a field without displaying that field in the dynaset.

14. Again, choose Query, Run or click on the Run toolbar button.

    Access displays the new dynaset shown in Figure 4-19; all customers in California are displayed, as before, but this time minus the State field.

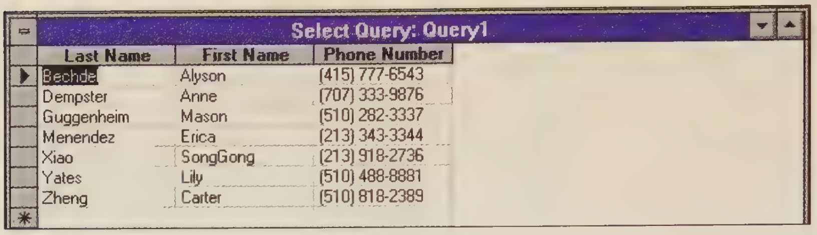
FIGURE 4-18
This dynaset is the result of a query requesting the last names, first names, and phone numbers of all customers in California.



Last Name	First Name	State	Phone Number
Bechde	Alyson	CA	(415) 777-6543
Dempster	Anne	CA	(707) 333-9876
Guggenheim	Mason	CA	(510) 282-3337
Menendez	Erica	CA	(213) 343-3344
Xiao	SongGong	CA	(213) 918-2736
Yates	Lily	CA	(510) 488-8881
Zheng	Carter	CA	(510) 818-2389

FIGURE 4-19

This dynaset includes the names and phone numbers of all customers in California, but doesn't actually show the State field, since its Show check box has been deselected.



Last Name	First Name	Phone Number
Bechde	Alyson	(415) 777-6543
Dempster	Anne	(707) 333-9876
Guggenheim	Mason	(510) 282-3337
Menendez	Erica	(213) 343-3344
Xiao	SongGong	(213) 918-2736
Yates	Lily	(510) 488-8881
Zheng	Carter	(510) 818-2389

15. Now you'll save the query so you can run it in the future. Choose File, Save Query. (If you were in Query Design view, you could also use the Save toolbar button.) Remember, saving a query doesn't save the data you currently see in the dynaset, but instead saves a set of instructions for sorting and extracting a particular set of data.

Access displays a Save As dialog box much like the one you saw when saving your table structure. This time, however, Access requests a query name rather than a table name.

16. Type **CAPhones** as the query name and then press Enter or click on OK.

Access returns you to Query Design view and displays the new query name in the Title bar. As when saving a table structure, you are prompted for a query name only when you save for the first time.

17. Drag across the column selectors for the PhoneNumber and State fields and press Del.

Access deletes the PhoneNumber and State fields from the QBE grid.

18. Click on the DateJoined field in the list of fields to select it, drag it down so that it's directly over the LastName field, and then release the mouse button.

Access adds the DateJoined field to the QBE grid, placing it in the LastName field's former position and pushing all other fields to the right.

19. In the Sort row of the DateJoined column, choose an Ascending sort. Then, in the Criteria row, enter **>12/31/91**

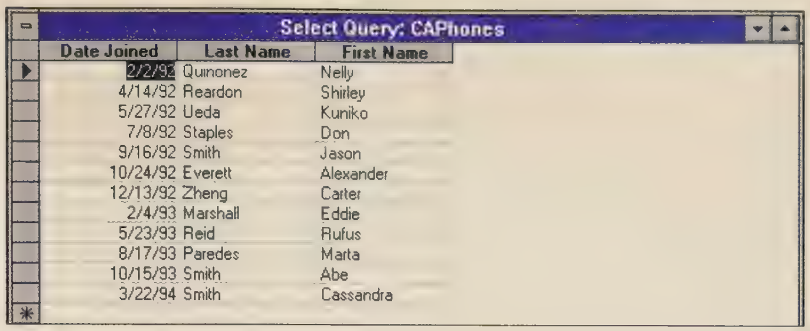
20. Choose View, Datasheet or click on the Datasheet View toolbar button.

Access runs the query, displaying the names for customers who joined after 12/31/91, as shown in Figure 4-20. An alternative way to run queries is simply to switch to Datasheet view by clicking on the Datasheet View toolbar button or choosing View, Datasheet.

21. Return to Query Design view by choosing View, Query Design or clicking on the Design View toolbar button.

22. Click on the column selector for the DateJoined field to select it. With the mouse pointer still over the column selector, drag to the right until the heavy vertical line is just to the right of the FirstName field, and then release the mouse button.

FIGURE 4-20
This dynaset is the result of a query asking for the names of all customers who joined after 12/31/91. Notice that the records are in ascending order by date.



Date Joined	Last Name	First Name
2/2/92	Quinonez	Nelly
4/14/92	Reardon	Shirley
5/27/92	Ueda	Kuniko
7/8/92	Staples	Don
9/16/92	Smith	Jason
10/24/92	Everett	Alexander
12/13/92	Zheng	Carter
2/4/93	Marshall	Eddie
5/23/93	Reid	Rufus
8/17/93	Paredes	Marta
10/15/93	Smith	Abe
3/22/94	Smith	Cassandra

Access moves the DateJoined field to the right end of the QBE grid. Remember, this will change the arrangement of data in the dynaset, as well as affecting the sort order.

23. Click on the Run toolbar button or choose Query, Run.

    Access displays the revised dynaset shown in Figure 4-21. Now last names are displayed first, and the records are also sorted first by last name.

24. Choose File, Save Query As (you want to save this query without overwriting the CAPhones query on which it is based). Then enter **Post91Cust** and click on OK or press Enter.

    Access returns you to Query Design view and displays the new query name in the Title bar.

25. Close the query by double-clicking on its Control-menu box.

    Access returns you to the FRUITFUL Database window, which now includes the two queries CAPhones and Post91Cust.

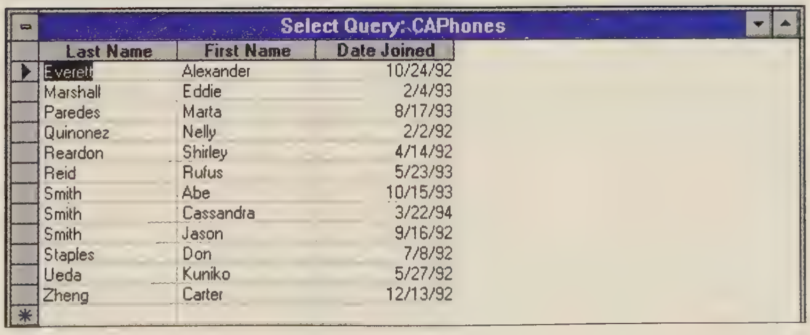
26. Double-click on the CAPhones query to run it. Now you'll try changing data in dynaset, noting that your changes are reflected in the underlying table.

    Access displays the CAPhones query in Datasheet view.

27. Change the phone number for Alyson Bechdel to (415) 777-6543

28. Close the datasheet by double-clicking on its Control-menu box.

FIGURE 4-21
Since the LastName field is the leftmost field in the QBE grid for this query, last names are displayed first in the dynaset, and the records are also sorted by last name first.



Last Name	First Name	Date Joined
Everett	Alexander	10/24/92
Marshall	Eddie	2/4/93
Paredes	Marta	8/17/93
Quinonez	Nelly	2/2/92
Reardon	Shirley	4/14/92
Reid	Rufus	5/23/93
Smith	Abe	10/15/93
Smith	Cassandra	3/22/94
Smith	Jason	9/16/92
Staples	Don	7/8/92
Ueda	Kuniko	5/27/92
Zheng	Carter	12/13/92

29. In the FRUITFUL Database window, click on the Table object button, double-click on the BFCustomers table to open it, and then scroll to the right until you can see the phone number for Alyson Bechdel.

    As you can see, the new number that you just entered through the dynaset is reflected in the table.

30. When you're done, close the table by double-clicking on its Control-menu box.

QUERYING MULTIPLE TABLES

You've just spent a fair amount of time building queries based on a single table. It's not much more difficult to construct queries that glean data from more than one table. Essentially, you add the field lists for the desired tables to the top of the Query Design window, and then choose fields and specify sorting and selection instructions as you do for a single-table query. However, it's critical that you also **join** the tables—that is, notify Access how to match up records from one table with the appropriate records from any other tables. Otherwise, Access wouldn't have a clue which orders corresponded with which customers, as just one example.

You can join tables by means of their common fields. In some cases, Access does you the favor of joining tables automatically. This happens if one table has a field of the same name and the same data type as the primary key in the other, or if you've already defined a formal relationship between the tables. (You'll learn about defining relationships between tables in Lesson 7.)

WARNING

There are certain restrictions on making changes to dynasets that are the result of multitable queries. Refer to the online Help system (search for the topic "Queries: Updating Underlying Tables") or consult your Access documentation for additional details.

BUILD A MULTITABLE QUERY

Now you'll build a query that draws data from both the BFCustomers and BFOrders tables. (If you didn't add data to BFOrders at the end of Lesson 3, you can always retrieve the BFOrders table from the FRUITFUL database on the Student Data Disk.)

1. Noting that the BFCustomers table is selected in the FRUITFUL Database window, click on the New Query toolbar button or choose File, New, Query.

   Access displays the New Query dialog box, which you saw earlier.

2. Click on the New Query button.

   Access opens the Query Design window; this time, the field list for the BFCustomers table is already displayed at the top of the window.

3. Choose Query, Add Table or click on the Add Table toolbar button.

   Access displays the Add Table dialog box; from here, you can add additional tables to the open Query Design window.

4. Double-click on the BFOrders table and then click on the Close button.

   Access closes the Add Table dialog box, and you can see that it has added the field list for BFOrders table to the Query Design window, as shown in Figure 4-22.

TIP

If you didn't retrieve data into the BFOrders table in Lesson 3, you can simply open the BFOrders table on the Student Data Disk. Then, if you're working on a hard drive, you can use the File, Save As command to save this file on the hard drive.

5. Notice the line connecting the two tables; this indicates that the tables are joined. Access guessed that you wanted them joined, since they both have a field with the same name and data type.

6. You can delete joins by clicking on them and pressing Del. Try this now by clicking on the line between the CustomerID fields in BFCustomers and BFOrders and pressing Del.

   Access removes the join line.

7. If Access can't guess where to place the join and you want to establish one, you can drag to introduce a join line like the one you just saw. Try this now by clicking on the CustomerID field in the BFCustomers table and then dragging from that field over to the CustomerID field in the BFOrders table.

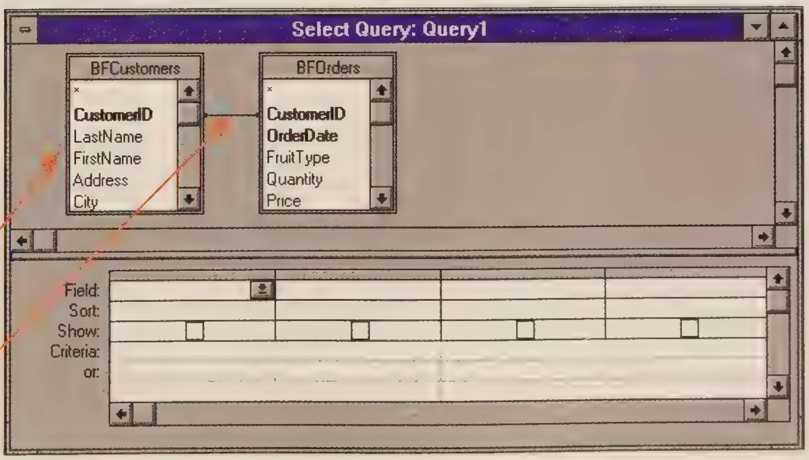
   Access reestablishes the link between the two tables, drawing a join line between the two CustomerID fields.

8. In the BFCustomers field list, double-click on the LastName field and then double-click on the FirstName field.

   Access adds both of these field names to the QBE grid.

FIGURE 4-22

You can add several tables to the upper portion of the Query Design window when you want to create queries based on multiple tables.



Field lists from multiple tables or queries can be displayed here.

Line indicating that tables are joined

9. Choose a sort order of Ascending for both the LastName and FirstName fields.
10. Double-click on the FruitType field in the BFOrders field list to add that field to the QBE grid.
11. In the Criteria row for the FruitType field, enter **Apples**
12. Click on the Run toolbar button or choose Query, Run to run the new query.

    Access displays the dynaset shown in Figure 4-23, which list records for customers who have ordered apples. Notice that customers who ordered apples more than once are listed more than once.

13. Click on the Design View toolbar button or choose View, Query Design.

    Access returns you to the Query Design window.

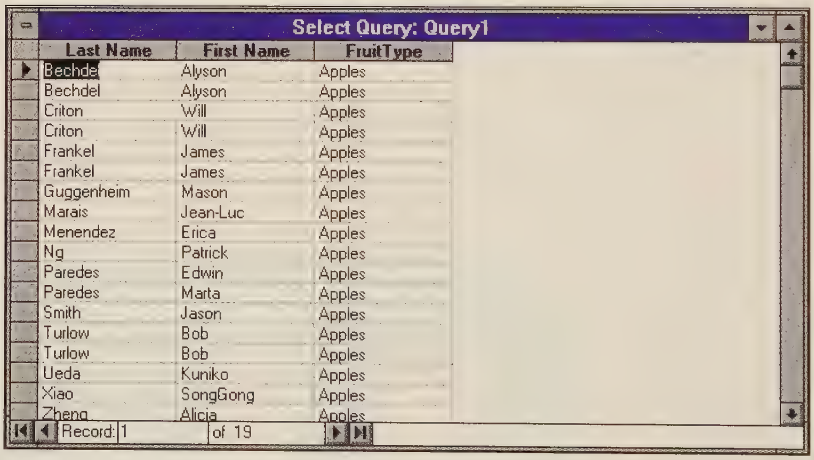
14. In the FruitType column, enter **Oranges** in the Or row, directly below "Apples." Then click on the Datasheet View toolbar button or choose View, Datasheet to run the query.

    Access displays a new dynaset, listing names of all the customers who have ordered either apples or oranges, as shown in Figure 4-24.

15. Click on the Design View toolbar button to return to the Query Design window and click on the Show check box in the FruitType column to deselect it. Then click on the Run toolbar button or choose Query, Run to run the query.

FIGURE 4-23

This dynaset is the result of a query that asks for names of customers who have ordered apples. Notice how names are repeated for customers who ordered apples on more than one occasion.

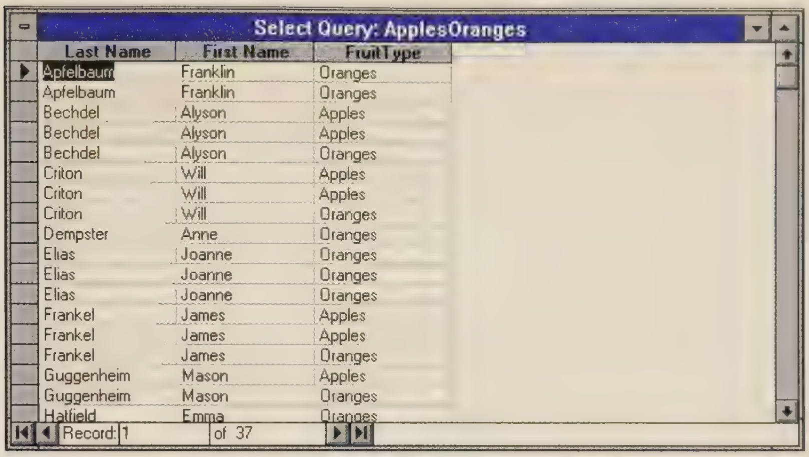


Last Name	First Name	FruitType
Bechde	Alyson	Apples
Bechdel	Alyson	Apples
Criton	Will	Apples
Criton	Will	Apples
Frankel	James	Apples
Frankel	James	Apples
Guggenheim	Mason	Apples
Marais	Jean-Luc	Apples
Menendez	Erica	Apples
Ng	Patrick	Apples
Paredes	Edwin	Apples
Paredes	Marta	Apples
Smith	Jason	Apples
Turlow	Bob	Apples
Turlow	Bob	Apples
Ueda	Kuniko	Apples
Xiao	SongGong	Apples
Zheng	Alicia	Apples

Record: 1 of 19

FIGURE 4-24

This dynaset displays all customers who have ordered either apples or oranges. Again, notice how names are repeated for customers who placed orders on several occasions.



Select Query: ApplesOranges

Last Name	First Name	FruitType
Apfelbaum	Franklin	Oranges
Apfelbaum	Franklin	Oranges
Bechdel	Alyson	Apples
Bechdel	Alyson	Apples
Bechdel	Alyson	Oranges
Criton	Will	Apples
Criton	Will	Apples
Criton	Will	Oranges
Dempster	Anne	Oranges
Elias	Joanne	Oranges
Elias	Joanne	Oranges
Elias	Joanne	Oranges
Frankel	James	Apples
Frankel	James	Apples
Frankel	James	Oranges
Guggenheim	Mason	Apples
Guggenheim	Mason	Oranges
Hatfield	Emma	Oranges

Record: 1 of 37

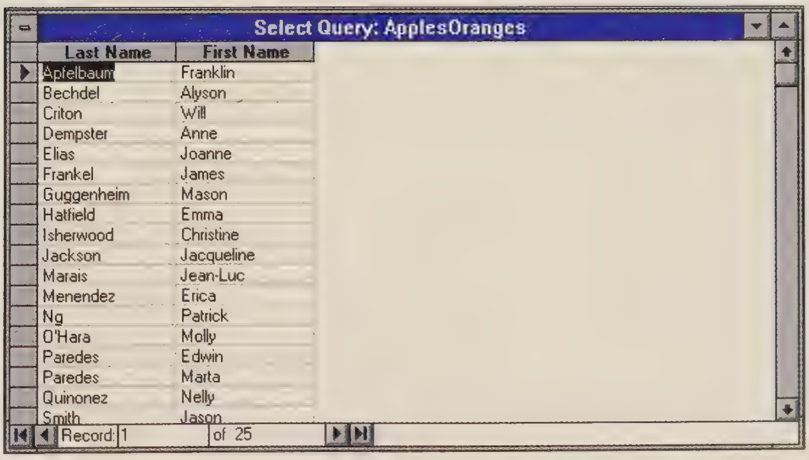
Access displays the revised dynaset shown in Figure 4-25. Now you see the customers who have ordered either apples or oranges, but you don't see the FruitType field.

16. Choose File, Save Query, enter the query name **ApplesOranges** in the Save As dialog box, and click on OK or press Enter to save the query.
17. Double-click on the Control-menu box to close the datasheet, and then click on the New button in the FRUITFUL Database window to begin creating a new query.
18. Click on the New Query button in the New Query dialog box that appears.

Access displays the Add Table dialog box with the Query Design window in the background.

FIGURE 4-25

When you suppress the display of the FruitType column, the revised dynaset shows only the names from the BFCustomers table. Nevertheless, these records are still selected on the basis of information in the FruitType field of the BFOrders table.



Select Query: ApplesOranges

Last Name	First Name
Apfelbaum	Franklin
Bechdel	Alyson
Criton	Will
Dempster	Anne
Elias	Joanne
Frankel	James
Guggenheim	Mason
Hatfield	Emma
Isherwood	Christine
Jackson	Jacqueline
Marais	Jean-Luc
Menendez	Erica
Ng	Patrick
O'Hara	Molly
Paredes	Edwin
Paredes	Marta
Quinonez	Nelly
Smith	Jason

Record: 1 of 25

19. Double-click on the BFCustomers table, double-click on the BFOrders table, and then click on the Close button.

    The BFOrders and BFCustomers tables should both appear in the Query Design window. As before, Access introduces a join line between the two CustomerID fields.

20. Add the LastName, FirstName, and PmtDate fields to the QBE grid, in that order.

21. Choose an Ascending sort for both the LastName and FirstName fields.

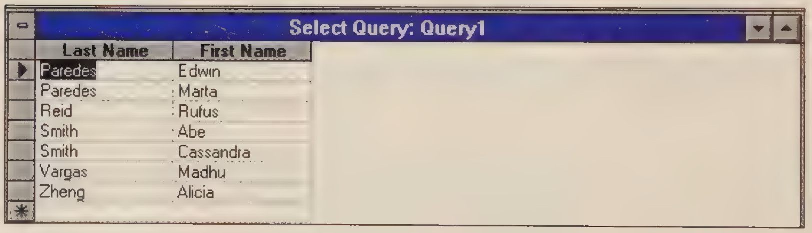
22. Deselect the Show check box for the PmtDate field. In the Criteria row, enter **Is Null.** You're going to track down all customers who have unpaid orders.

23. Choose Query, Run or click on the Run toolbar button to run the new query.

    Access displays the dynaset shown in Figure 4-26. This is a list of all customers who have ordered fruit but have not yet paid for it. Note that you can make a selection based on the PmtDate field without including it in the dynaset.

24. Choose File, Save Query As, enter the query name **UnpaidOrders,** and press Enter or click on OK to save the query.

25. Double-click on Control-menu box to close the datasheet.



Select Query: Query1

Last Name	First Name
Paredes	Edwin
Paredes	Marta
Reid	Rufus
Smith	Abe
Smith	Cassandra
Vargas	Madhu
Zheng	Alicia

FIGURE 4-26

Access displays this dynaset when you run a query that includes customer last and first names, and the criteria is Null in the PmtDate field.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Quick-sort selected field(s) in ascending order	Choose Records, Quick Sort, Ascending	Alt+r, q, a	AZ↓
Quick-sort selected field(s) in descending order	Choose Records, Quick Sort, Descending	Alt+r, q, d	ZA↓
Open Filter Design window	Choose Records, Edit Filter/Sort	Alt+r, f	▽✎
Apply filter	Choose Records, Apply Filter/Sort	Alt+r, y	▽
Remove filter	Choose Records, Show All Records	Alt+r, s	▽
Clear filter from Filter Design window	Choose Edit, Clear Grid	Alt+e, a	
Initiate new query	Choose File, New, Query	Alt+f, w, q	⧉
Run query	Choose Query, Run	Alt+q, r	!
Add tables to existing query	Choose Query, Add Table	Alt+q, a	⊞
Switch to Query Design view	Choose View, Query Design	Alt+v, d	✎
Switch to Datasheet view	Choose View, Datasheet	Alt+v, s	▦
Save query	Choose File, Save Query (in Query Design view, option is named Save)	Alt+f, s	💾
Save query under new name	Choose File, Save Query As (in Query Design view, option is named Save As)	Alt+f, a	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS	DEFINITIONS
1. Sort	**a.** Special characters that Access inserts around values in selection criteria so that it can better distinguish their data type
2. Filter	**b.** Way of linking tables in query so Access knows how to match up corresponding records
3. Select	**c.** Query that makes changes to data in underlying table(s)
4. Dynaset	**d.** To rearrange records into alphabetical, numerical, or chronological order
5. Join	**e.** Area of Query Design window in which you enter sorting and selection criteria
6. Action query	**f.** Subset of your data that's result of query
7. QBE grid	**g.** Area of QBE grid that enables you to choose whether fields are displayed in dynaset
8. Select query	**h.** To extract selected subset of your data
9. Delimiters	**i.** Query that enables you to sort, select, and view data
10. Show row	**j.** Way of sorting and selecting data from only a single table

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. When you want to sort your database into some order that you can use again in future, you should:

- **a.** Use a query.
- **b.** Use a Quick Sort command.
- **c.** Use a filter.
- **d.** Use a dynaset.

2. Before you can run a multitable query:

- **a.** The tables must be joined.
- **b.** The tables must be sorted into the same order.

   - **c.** You must establish a relationship between the tables.
   - **d.** The tables must contain only matching records.

3. If you perform an ascending sort on a Date/Time field, the records will be arranged with:
   - **a.** Most recent dates first, earliest dates last
   - **b.** Earliest dates first, most recent dates last
   - **c.** Dates from the past before dates from the present
   - **d.** New dates before old dates

4. If you change data in a dynaset:
   - **a.** The changes are reflected in the underlying table.
   - **b.** The changes are not reflected in the underlying table.
   - **c.** The changes show up in your next query to the same table.
   - **d.** The changes may modify the structure of the underlying table.

5. If you enter two different criteria on the same row of the grid in the Filter Design window or the Query Design window:
   - **a.** Records must meet both criteria in order to be selected.
   - **b.** Records must meet either criteria in order to be selected.
   - **c.** Records must meet one or the other but not both criteria in order to be selected.
   - **d.** Records are selected if and only if they meet the leftmost criteria.

6. If you enter two different criteria on two different rows in the grid in the Filter Design window or the Query Design window:
   - **a.** Records must meet both criteria in order to be selected.
   - **b.** Records must meet either or both criteria in order to be selected.
   - **c.** Records meeting either criteria are not selected.
   - **d.** Records meeting both criteria are not selected.

7. The Like comparison operator enables you to find values:
   - **a.** Between two specific values
   - **b.** In a specific ranges of values
   - **c.** That match a pattern
   - **d.** That fall within a list of values

8. Access automatically creates a join between two tables when:

- **a.** They have an identical primary key.
- **b.** They include fields with the same name.
- **c.** One has a field of the same name and the same data type as the primary key in the other.
- **d.** You set up a multitable query using both tables.

9. By default, Access arranges the data in your table:

- **a.** In ascending order by the leftmost field in the table structure
- **b.** In descending order by the leftmost field in the table structure
- **c.** In order by the primary key
- **d.** In ascending order by the leftmost field in the datasheet

10. You have to use a query rather than a filter if you want to:

- **a.** Sort on more than one field
- **b.** Select which fields you want to display
- **c.** Sort some fields into ascending order and other into descending order
- **d.** Display fields in the order in which they appear in the underlying table

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. Name at least two reasons for using a query rather than a filter to sort and/or select data.

2. Name the types of fields on which you *cannot* sort.

3. Describe the purpose of the Show row in the QBE grid.

4. What does it mean when fields are displayed in boldface in the field lists in the Filter Design or Query Design window?

5. Explain why Access automatically encloses certain parts of your selection criteria between delimiters. (Hint: The delimiters in question are double quotes (") and the pound sign (#).)

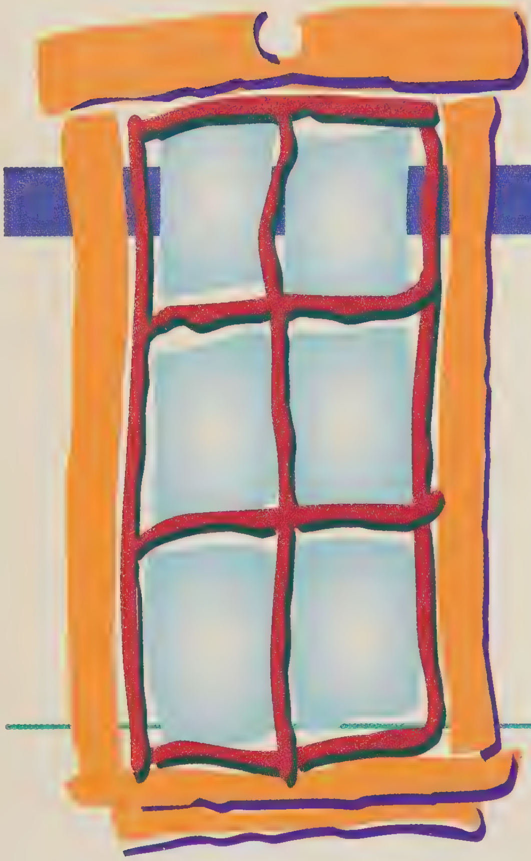
6. Provide the selection criteria you'd use to find all customers who joined before (but not on) 2/2/92. Describe very briefly what you'd do to extract customers in this category *without* displaying the date they joined.

7. Describe how you'd change the order in which fields are displayed in the datasheet when working with a filter. (Think about whether this can be done.) Then describe how you'd change the order of fields with a query. (For extra credit, describe two ways of doing this.)

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Devise a filter that sorts the orders in the BFOrders table by quantity, and then by order date. (In case you didn't add data to BFOrders in Lesson 3, you can open the BFOrders table in the FRUITFUL database on the Student Data Disk.) Then hide all fields except for the OrderDate, FruitType, and Quantity fields, and rearrange the fields so that the Quantity field is displayed on the far left. (Hint: You may want to refer back to Lesson 3 for help on this.) For extra credit, revise the filter so that you're viewing only orders that were placed after 1993.
2. Devise a query that displays customers in the BFCustomers table in descending order by the DateJoined field. Include the dates joined, last names, first names, and phone numbers in the dynaset. Save the query, naming it **JoinDate**. Then revise the query so that it displays records for only those customers who joined before 1994. There's no need to save the revised query. (It's a good idea to create this query if you want to follow along with all the exercises in the next lesson. If you don't create it now, however, you can always retrieve it from the FRUITFUL database on the Student Data Disk.)
3. Devise a multitable query that lists all customers who have placed orders after 1993. Sort these customers in ascending order first by last name and then by first name. Display the last names, first names, and order dates in the dynaset. Save the query as **Post93Orders**. For extra credit, try to rearrange the fields in the dynaset so that order dates are displayed first; there are two ways you can do this.



LESSON 5

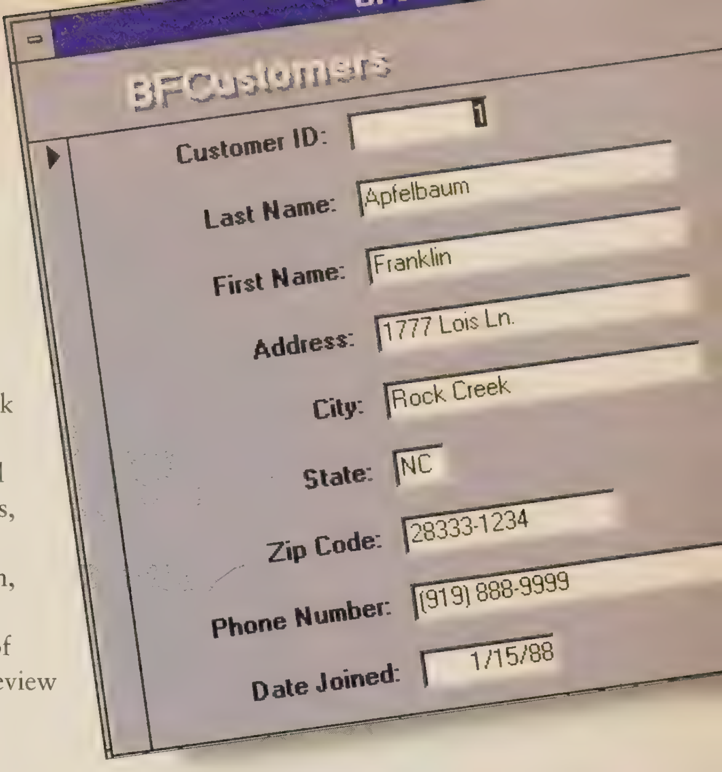
VIEWING, ENTERING, AND EDITING DATA WITH FORMS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create an AutoForm.*
- *Use a Form Wizard to create a single-column form.*
- *Use a Form Wizard to create a tabular form.*
- *Use a Form Wizard to create a graph.*
- *Add and edit data with forms.*
- *View subsets of your data with a form.*
- *Preview and print forms.*

This chapter provides a thorough introduction to Access's form-making capabilities. You'll take full advantage of the Access Form Wizards—a quick ticket for producing a wide variety of form layouts. You'll learn how to build AutoForms, single-column forms, tabular forms, and graphs. In addition, you'll learn how to edit data through forms, view subsets of your data with forms, and preview and print forms.



BFCustomers

Customer ID: 1

Last Name: Apfelbaum

First Name: Franklin

Address: 1777 Lois Ln.

City: Rock Creek

State: NC

Zip Code: 28333-1234

Phone Number: (919) 888-9999

Date Joined: 1/15/88

WHEN AND WHY TO USE FORMS

As you probably remember from Lesson 1, Access forms are the electronic analog of paper forms. You can use forms to view, edit, and enter data into your tables. So far, you've just used the datasheet to work with your data. Although this setting is fine for getting an overview, it generally doesn't permit you to see all fields at once—making it awkward to assess or edit your data. To create a more comfortable working environment, you can devise custom forms to determine how the data from a designated table or query is presented. Among other things, you can build forms that display only a single record at a time, and forms that reveal only selected fields from the chosen table or query. Forms are particularly helpful when you want to create a more hospitable environment for data entry, or when you need to control which data is displayed.

It's refreshingly easy to create basic forms in Access. You can produce an AutoForm literally with the click of a button. In addition, Access supplies a number of Form Wizards for creating various types of forms, including single-column forms, tabular forms, and graphs. Like the Table Wizard you used in Lesson 2, the Form Wizards enable you to build several standard forms with a minimum of effort or fuss. And if these forms are not just right, you can modify them after the fact, as described in Lesson 7.

Although you're just now learning about forms, you won't find yourself in completely foreign territory. In forms, you navigate through fields and records much as you do in Datasheet view. In fact, at any time, you can switch to the form's Datasheet view to see multiple records at once. (This view is identical to the Datasheet view of table, but displays only the information that you would see in the form.) And, since you already know how to add, edit, delete, sort, and select data in the datasheet, you should have no trouble learning how to do these things with forms, since the basic procedures are pretty much the same.

CREATING AN AUTOFORM

Access lets you create AutoForms just by choosing the table or query on which you want to base the form and then clicking on a single button. An **AutoForm** is actually a specialized type of Form Wizard that doesn't request any input, but instead gathers the information it needs just by evaluating the selected table or query. The Wizard builds a very basic—but perfectly respectable—form that includes every field from the table or query arranged in a single column, with field names (or captions) to the left to identify the fields, and the name of the table or query at the top as a heading. Most fields are displayed as text boxes; Memo fields are displayed as slightly larger text boxes that take on vertical scroll bars when the field is selected, and Yes/No fields show up as check boxes that you can click on to either select or deselect.

CREATE AND EXPERIMENT WITH AN AUTOFORM

Now you'll create an AutoForm based on the BFCustomers table, and will try viewing and navigating through your data using the form.

1. Make sure you're in Access, and choose File, Open Database or click on the Open Database toolbar button. In the Open Database dialog box that appears, choose the FRUITFUL.MDB database in the FRUITFUL directory.

   Access displays the FRUITFUL Database window with the Table object button selected and the names of any tables in the database displayed.

2. If the BFCustomers table is not already selected, click on it to select it.
3. Click on the AutoForm toolbar button.

   After a while, Access displays a form like the one shown in Figure 5-1. The form will include all the fields for a single record, although in this case, you have to scroll to see the last few fields.

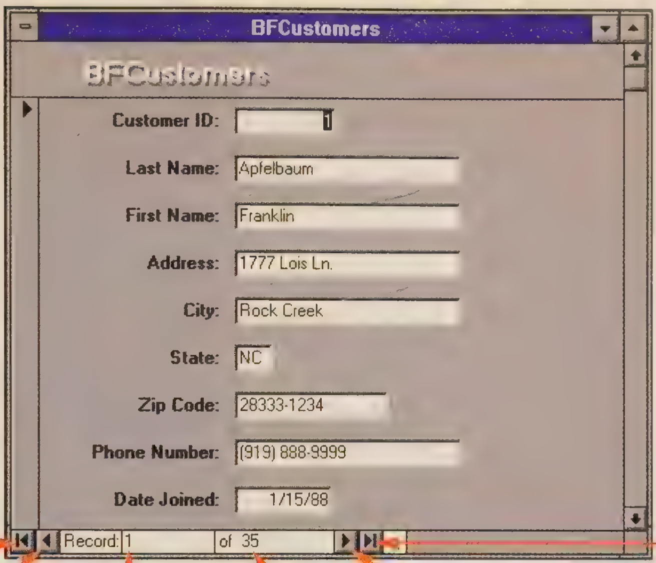
TIP *You can just as easily create AutoForms from within Datasheet view.*

4. Notice that the data for the first record in the BFCustomers table is displayed. Click on the Last Record navigation button.

   Access displays the information for the last record in the table. All the navigation buttons at the bottom of the form work as they do in the datasheet.

5. Click twice on the Previous Record button.

   Access moves up two records in the table.



Customer ID: 1
Last Name: Apfelbaum
First Name: Franklin
Address: 1777 Lois Ln.
City: Rock Creek
State: NC
Zip Code: 28333-1234
Phone Number: (919) 888-9999
Date Joined: 1/15/88
Record: 1 of 35

First Record button
Last Record button
Previous Record button
Current record
Total records
Next Record button

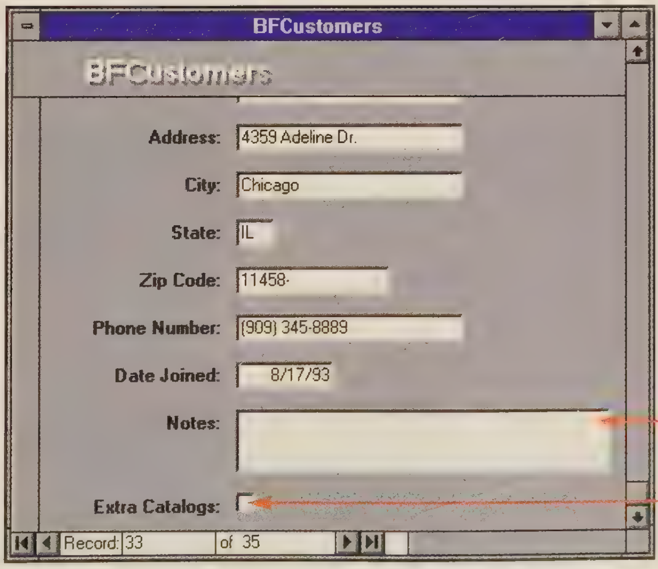
FIGURE 5-1
To create an AutoForm, select the name of the table or query you want to create a form for, and then click on the AutoForm toolbar button. Here is an AutoForm for the BFCustomers table.

6. Click on the downward-pointing arrow in the scroll bar.

Access displays the remaining fields in the table for the current record, as shown in Figure 5-2. The Notes field has a larger text box because it's a Memo field, and the ExtraCatalogs field is displayed as a check box because it's a Yes/No field. You can click on this check box to turn it on (place an X in it) or turn it off (remove the X).

TIP

If most, but not all, fields show up in your form, you may be able to bring them all into view by maximizing the form window.



Address: 4359 Adeline Dr.
City: Chicago
State: IL
Zip Code: 11458-
Phone Number: (909) 345-8889
Date Joined: 8/17/93
Notes:
Extra Catalogs: ☐
Record: 33 of 35

Large text box for Memo field
Check box for Yes/No field

FIGURE 5-2
If not all the fields in your AutoForm are visible, you can scroll them into view. Here are the final few fields in the BFCustomers table, displaying the data for the current record. Notice that most fields are displayed as text boxes, the Notes field is displayed as a larger text box, and the Extra Catalogs field is displayed as a check box.

7. If you want to see more than a single record at a time, you can always switch to the form's Datasheet view. Do so now by clicking on the Datasheet View toolbar button or choosing View, Datasheet.

   Access displays the form in Datasheet view, as shown in Figure 5-3. You'll see the portion of the data that you were viewing in Form view. If you like, you can also scroll up and down (and left and right) through your data, as you can when working on a table in Datasheet view.

8. Click on the Form View toolbar button.

   Access returns you to Form view.

9. Double-click on the Control-menu box to close the form.

   Because you haven't saved the form, Access displays the alert box shown in Figure 5-4. Here you can select Yes to go ahead and save the form, No to close the form without saving it, Cancel to back out of the operation and return to the form, or Help to get online help with the procedure.

10. Click on Yes or press Enter to save the form.

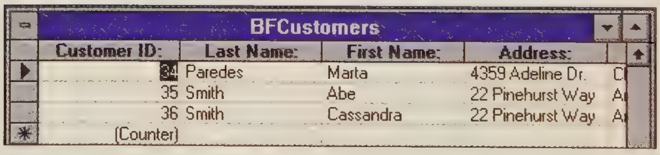
    Access displays a Save As dialog box virtually identical to the one you see when saving tables and queries, but this one prompts you for a form name.

11. Enter **BFCustAutoForm** as the form name and click on OK to save the form.

    Access saves and then closes the form, returning you to the FRUITFUL Database window.

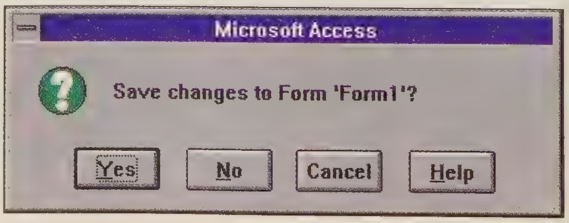
12. Just to double-check that Access did indeed save the form, click on the Form object button.

    Access displays any forms associated with the FRUITFUL database. As you can see in Figure 5-5, the BFCustAutoForm is displayed here.



Customer ID:	Last Name:	First Name:	Address:
34	Paredes	Marta	4359 Adeline Dr.
35	Smith	Abe	22 Pinehurst Way
36	Smith	Cassandra	22 Pinehurst Way
(Counter)			

FIGURE 5-3
At any time, you can see the Datasheet view of a form, as here, just by clicking on the Datasheet View toolbar button.

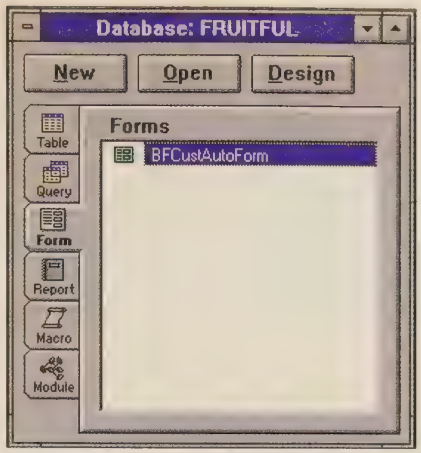


Save changes to Form 'Form1'?

FIGURE 5-4
When you attempt to close a form that has not been saved, Access displays this alert box.

FIGURE 5-5

When you click on the Form object button in the Database window, Access displays the names of any forms associated with the database. Here you can see the BFCustAutoForm that you just created.



USING THE FORM WIZARDS

If you have rudimentary needs and simple tables, AutoForms might do the job. Often, however, you'll want to have more control over your forms—choosing their layout, deciding which fields to include, and more. In these situations, you can take advantage of one of several Form Wizards furnished by Access. Using a Form Wizard is much like using the Table Wizard: You are prompted for information and Access builds a form based on your responses. Form Wizards do much of the work for you; at the same time, they grant you a fair amount of input into the final results.

When using a Wizard, keep in mind that you can click on the Back button at any time to move back one step, and you can also click on the Hint button to get additional information about the available choices before you proceed.

In the following guided activity, you'll create a simple single-column form. A little bit later, you'll experiment with some of the other types of forms that Access supplies.

CREATE A SINGLE-COLUMN FORM WITH THE FORM WIZARDS

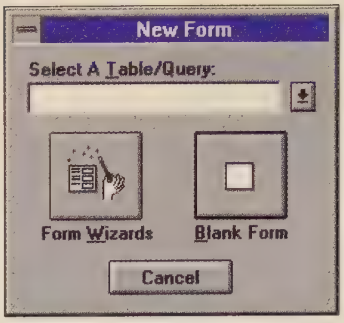
Next you will create a **single-column form** using a Form Wizard. A single-column form is one in which all fields are displayed in a single column, as in the AutoForm you created earlier. (An AutoForm is actually a very simple single-column form.)

1. Choose the Form object button in the FRUITFUL Database window and click on the New button; you can use this technique to initiate any one of the Form Wizards.

   Access displays the New Form dialog box, as shown in Figure 5-6.

FIGURE 5-6

When you select the Form object button in the Database window and click on the New button, Access displays this dialog box. From here, you choose which table or query to base the form on.



2. Click on the downward-pointing arrow to the right of the Select A Table/Query drop-down list box.

   Access displays an alphabetical list of the available tables and queries, as you can see in Figure 5-7. As you can see, this list includes the queries you created in the previous lesson, as well as the tables you created earlier.

3. Click on the BFCustomers table and then click on the Form Wizards button.

   After a moment, Access displays the Form Wizards dialog box shown in Figure 5-8. Here is where you choose a Form Wizard—you're picking which type of form you want to create. When you highlight the name of a Form Wizard, Access displays a brief description at the bottom of the dialog box.

4. Noting that Single-Column is selected, click on OK.

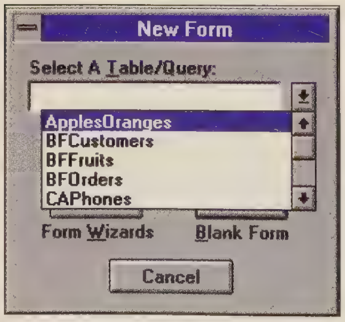
   You'll see the initial Single-Column Form Wizard dialog box shown in Figure 5-9. Here you can choose which fields to include in the form, as well as the order in which they are displayed. This dialog box works much like the initial Table Wizard dialog box, although in this case, you can only choose fields from the selected table or query.

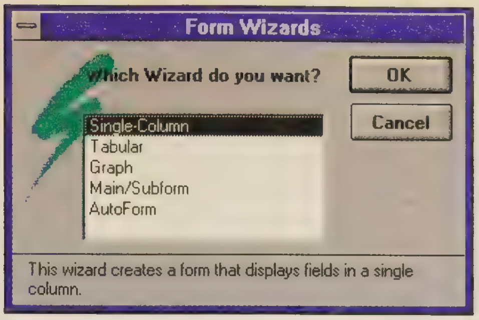
5. Click on the >> button.

   Access moves all fields names over to the Field Order On Form list box. If you want to include all or most fields in the form, it's quicker to add them all at once like this and then remove a few with the < button.

FIGURE 5-7

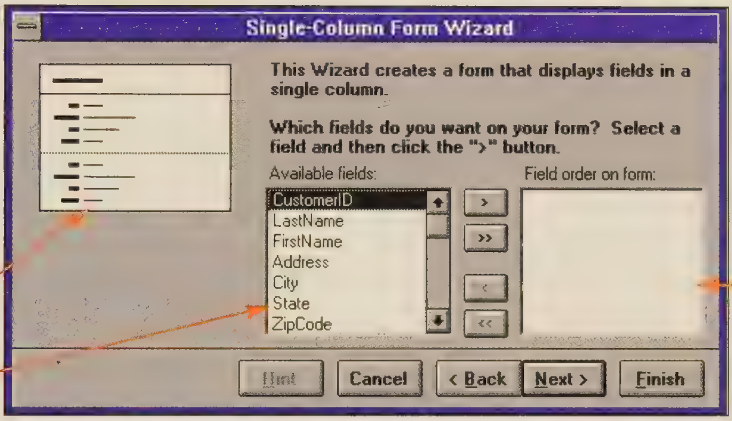
When you pull down the Select A Table/Query drop-down list box in the New Form dialog box, Access reveals a list of all tables and queries in the open database.





This wizard creates a form that displays fields in a single column.

FIGURE 5-8
When you click on the Form Wizards button, Access displays the dialog box shown here, which enables you to choose from five different Form Wizards.



This Wizard creates a form that displays fields in a single column.

Which fields do you want on your form? Select a field and then click the ">" button.

FIGURE 5-9
When you choose the Single-Column Form Wizard and click on OK, Access presents this dialog box, from which you can choose which fields to include in the form.

Sample form layout

Fields from selected table or query

Fields to be included in the form

TIP *The order of fields in the Field Order On Form list box determines their order in the form itself. If you want to change the existing order of fields, you must use the > button to add them one by one in the desired order.*

6. Scroll down until you can see the DateJoined field. Click on it to select it, and click on the < button.

   Access removes the DateJoined field from the list of fields to be included in the form, returning it to the Available Fields list box.

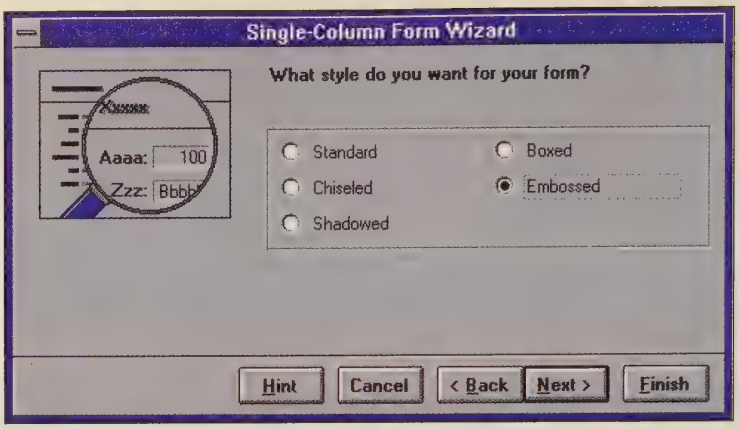
7. Notice that the Notes field is selected, and click on the < button.

   Access removes the Notes field from the list of fields to be included in the form.

8. In the same manner, remove the ExtraCatalogs field from the list of fields to be included in the form.

9. Click on the Next button to move on to the next Form Wizard dialog box.

   Access displays the Single-Column Form Wizard dialog box shown in Figure 5-10. It's from here that you choose one of five styles for your form. Although these styles affect the form's appearance, they do not change its basic layout.



What style do you want for your form?

○ Standard
○ Boxed
○ Chiseled
● Embossed
○ Shadowed

FIGURE 5-10

This Single-Column Form Wizard dialog box is displayed when you choose Next after selecting which fields to include in your form. This is where you choose one of several styles for your form.

10. Note that the Embossed option button is selected by default, and a sample of this style is displayed in the upper-left corner of the dialog box. Click on the Standard option button, noting the new sample display in the upper-left corner. Preview the other form styles in the same manner.

11. Click on the Standard option button if it's not already selected, and then click on the Next option button.

    Access displays the final Single-Column Form Wizard dialog box shown in Figure 5-11. Here you supply a title for your form (Access lists the name of the selected table as a default) and choose whether to open the form with data or edit the form's design. In either case, you can choose to display helpful Cue Cards.

12. Enter the title **Names and Addresses** for the form, make sure the option button Open The Form With Data In It is selected, and click on the Finish button.

    In a moment, Access displays the form you just created, as shown in Figure 5-12. The form contains data from the BFCustomers table that you selected via the Form Wizard. Also, note that the form displays only the designated fields.

13. Click on the Datasheet View toolbar button to switch to the form's Datasheet view, and then scroll to the right through your data, noticing that Access only displays the fields included in the form.

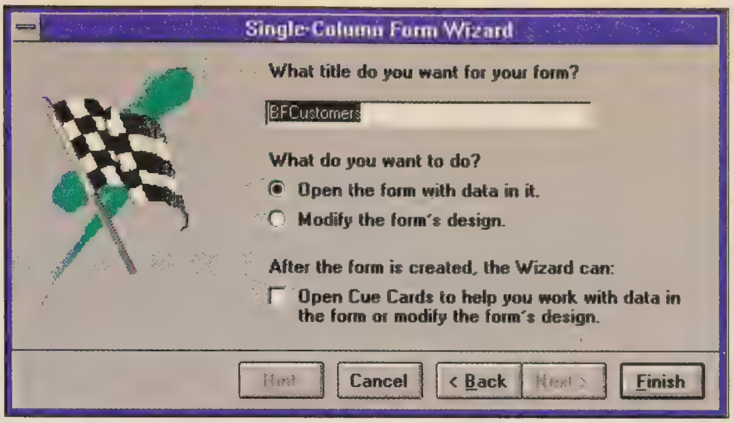
14. Click on the Form View toolbar button to return to Form view.

15. Choose File, Save Form.

    Access displays the Save As dialog box, asking for a name for your form.

TIP

The form's title is different from its name. The title is displayed at the top of the form when it's open; the form's name is displayed in the Database window when the Form object button is selected.



What title do you want for your form?

BFCustomers

What do you want to do?

● Open the form with data in it.

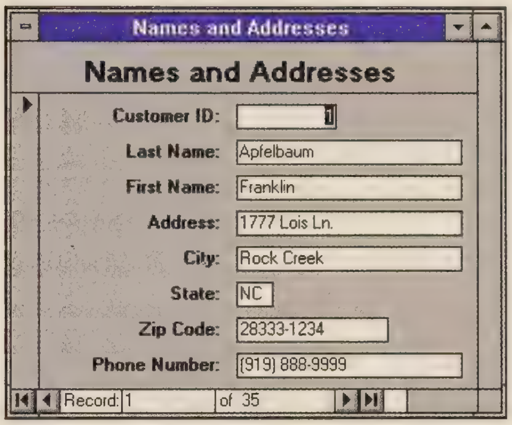
○ Modify the form's design.

After the form is created, the Wizard can:

☐ Open Cue Cards to help you work with data in the form or modify the form's design.

FIGURE 5-11

Access displays this dialog box after you choose the style for your form and click on the Next button. Now you can pick a title for your form and choose whether to view the form with data or to view the form's design.



Customer ID:	1
Last Name:	Apfelbaum
First Name:	Franklin
Address:	1777 Lois Ln.
City:	Rock Creek
State:	NC
Zip Code:	28333-1234
Phone Number:	(919) 888-9999

Record: 1 of 35

FIGURE 5-12

Here is the single-column form you just designed with the Single-Column Form Wizard. As you can see, this form is laid out much like the AutoForm you created earlier, but in this case, only selected fields are displayed.

16. Enter **BFCustNameAddress** as the form name and click on OK.

    Access names and saves the form.

17. Double-click on the form's Control-menu box to close the form and return to the FRUITFUL Database window.

NOTE

Even though not all the data from the table is displayed in this form, it's still there in the underlying table. Always remember that a form just displays your data; it doesn't contain it. You might want to conceptualize a form as a window onto your data.

CREATING TABULAR FORMS

The two forms you've created so far display all fields in a single column, and show only one record at a time. There might be occasions, however, when you want to see multiple records at once but don't want to rely on Datasheet view. If so, a tabular form might do the trick. **Tabular forms** display all the fields for a single record in one row, and display multiple records at one time. Field names or captions are displayed as column headings—much as they are in Datasheet view. These types of forms work particularly well for tables or queries that don't include many fields. And, of course, if there are more fields than you can see at once, you can scroll vertically or horizontally to bring them into view.

BUILD A TABULAR FORM

Here you will use the Tabular Form Wizard to create a form based on the JoinDate query.

1. Make sure you're still in the FRUITFUL Database window and click on the Query object button.

   You'll see a list of queries in the FRUITFUL database. You should see all the queries that you created in Lesson 4.

2. Click on the JoinDate query to select it. (If you didn't create this query in the preceding lesson, you can always retrieve it from the FRUITFUL database on the Student Data Disk.) Remember, this query sorts customers in descending order by the DateJoined field, so those who joined most recently are at the top of the list.

3. Click on the New Form toolbar button.

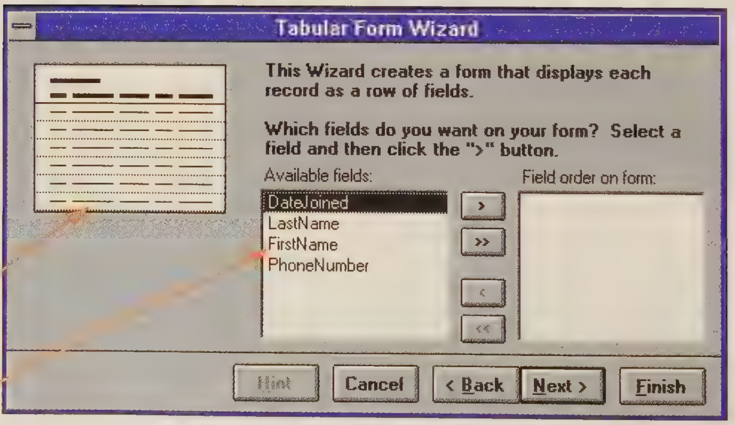
   Access displays the New Form dialog box you saw earlier. This time, however, the JoinDate query is already selected in the Select A Table/Query drop-down list box.

4. Click on the Form Wizards button in the New Form dialog box.

   In time, Access brings up the initial Form Wizards dialog box, where you can choose which Form Wizard to use.

5. Click on Tabular and then click on OK.

   Access displays the Tabular Form Wizard dialog box shown in Figure 5-13. At this stage, you choose which fields to include in your form.



Tabular Form Wizard

This Wizard creates a form that displays each record as a row of fields.

Which fields do you want on your form? Select a field and then click the ">" button.

Available fields:
- DateJoined
- LastName
- FirstName
- PhoneNumber

Field order on form:

FIGURE 5-13

If you select the Tabular Form Wizard and click on OK, Access displays this dialog box for choosing which fields to include in the form.

Sample form layout

Fields in selected query

6. Click on the FirstName field to select it and then click on > to move it over to the Field Order On Form list box.

7. In the same manner, select the LastName, PhoneNumber, and DateJoined fields, in that order, and use the > button to move them to the Field Order On Form list box.

WARNING

In this instance, you can't just use the >> button to select all these fields, since you need not only to move them over to the Field Order On Form list box, but also to change their order.

8. Click on the Next button.

   You'll see the Tabular Form Wizard dialog box for choosing one of the five predefined styles for your form.

9. Click on the Standard option button and then click on the Next button.

   Access displays the final Tabular Form Wizard dialog box. As when creating a single-column form, you can now enter a title for the form, and can choose to view data with the form or to view the form's design.

10. Enter **Join Date Tabular Form** as the form's title, make sure the Open The Form With Data In It option button is selected, and click on the Finish button.

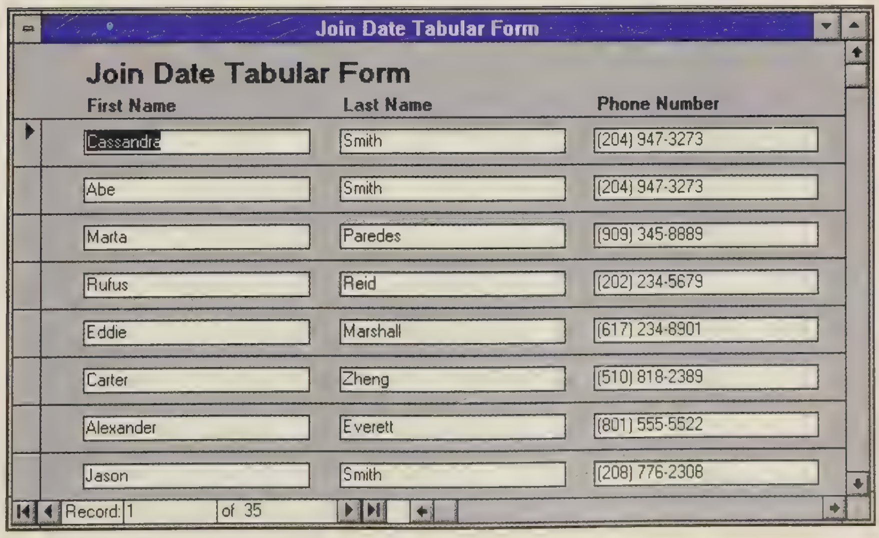
    Access displays the tabular form shown in Figure 5-14, displaying the data from your JoinDate query in a tabular layout.

11. Choose File, Save Form. In the Save As dialog box that appears, enter **JoinDateTabForm** and click on OK.

    Access returns you to your form.

12. Double-click on the Control-menu box to close the form.

    Access returns you to the FRUITFUL Database window.



Join Date Tabular Form

First Name	Last Name	Phone Number
Cassandra	Smith	(204) 947-3273
Abe	Smith	(204) 947-3273
Marta	Paredes	(909) 345-8889
Rufus	Reid	(202) 234-5679
Eddie	Marshall	(617) 234-8901
Carter	Zheng	(510) 818-2389
Alexander	Everett	(801) 555-5522
Jason	Smith	(208) 776-2308

Record: 1 of 35

FIGURE 5-14

Here is a tabular form for the JoinData query. As you can see, the records are laid out in rows, as opposed to a single-column form, where the fields in a single record are arranged in one column. In addition, the fields are listed in the order you specified in the Form Wizard.

CREATING GRAPH FORMS

Access provides a Form Wizard called the Graph Wizard that lets you put together simple graphs based on the data in a table or query. By presenting data in visual form, graphs can often convey information more succinctly and more forcefully than can sheer numbers. For example, it's easier to get a sense of the rise and fall in sales for the year when you look at a line or bar graph rather than a mass of numbers, even if those numbers are laid out in a well-ordered manner.

CONSTRUCT A GRAPH FORM

In this guided activity, you'll use the Graph Wizard to create a graph that displays the number of orders per quarter.

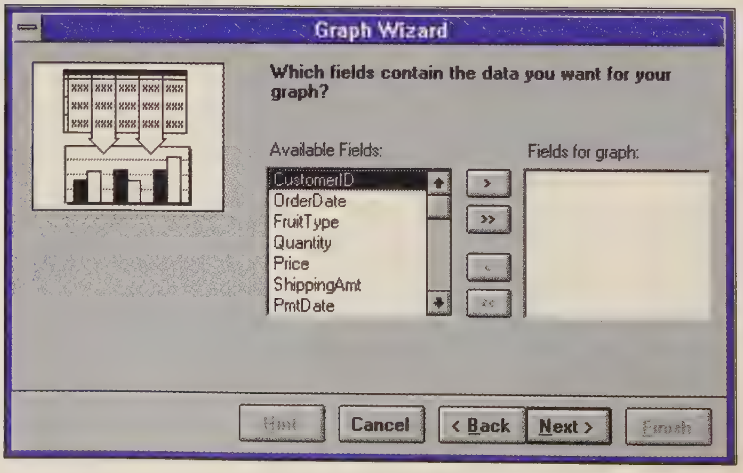
1. In the FRUITFUL Database window, click on the Table object button and then click on the BFOrders table to select it.
2. Click on the New Form toolbar button.

   Access displays the New Form dialog box, with the BFOrders table already selected under Select A Table/Query.
3. Click on the Form Wizards button.

   Access displays the initial Form Wizards dialog box, in which you select which Form Wizard to use.
4. Click on the Graph option to select it, and then click on OK.

   After a moment, Access displays the Graph Wizard dialog box shown in Figure 5-15. Here you choose the data you want to graph.
5. Click on the OrderDate field and click on > to place it in the Fields For Graph list box; click on the PmtAmt field, and again click on >. Then click on Next.

   Access displays the Graph Wizard dialog box shown in Figure 5-16.



Graph Wizard

Which fields contain the data you want for your graph?

Available Fields:

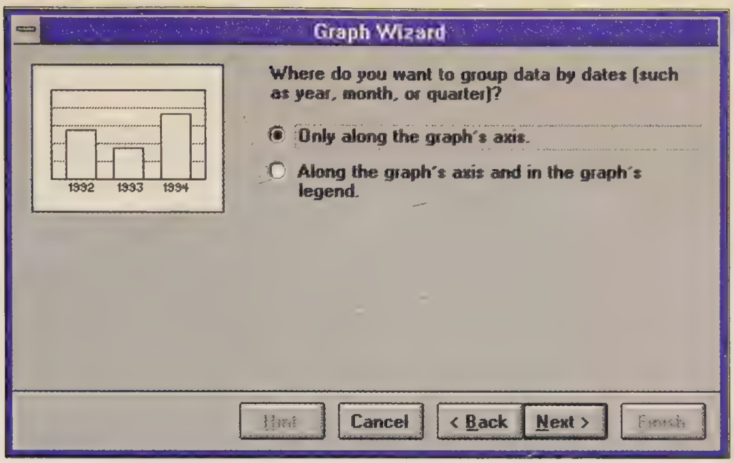
- CustomerID
- OrderDate
- FruitType
- Quantity
- Price
- ShippingAmt
- PmtDate

Fields for graph:

FIGURE 5-15

Once you choose the Graph form type and click on OK, Access displays this Graph Wizard dialog box; here you can specify the fields that include the data you want to graph.

FIGURE 5-16
After you select the fields whose data you want to graph, Access may display this Graph Wizard dialog box, where you choose how to group your data.



Where do you want to group data by dates (such as year, month, or quarter)?

● Only along the graph's axis.

○ Along the graph's axis and in the graph's legend.

6. Leave the option button Only Along The Graph's Axis selected and click on Next.

   Access displays the Graph Wizard dialog box shown in Figure 5-17. Here you choose how to group data and what range of data to graph, if you're not graphing all your data.

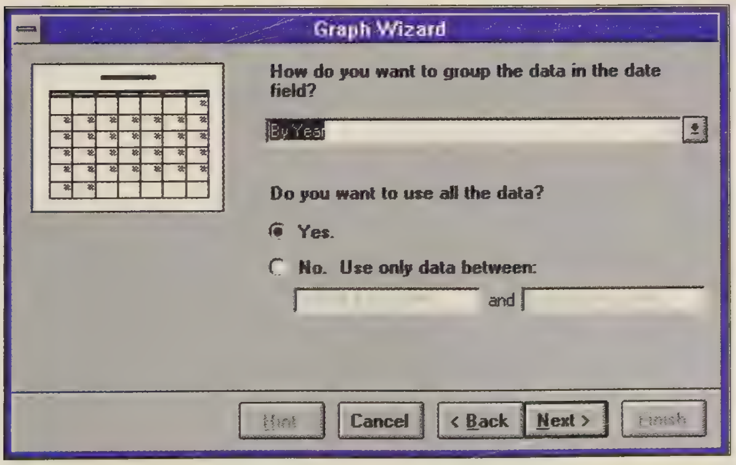
NOTE

The dialog boxes asking you how to group data appear only if you're graphing data from a Date/Time field.

7. Select By Quarter from the drop-down list box at the top of the dialog box, click on the No option button, and enter **1/1/92** in the first text box and **1/1/94** in the second. Then click on the Next button.

   Access displays the next Graph Wizard dialog box, which is shown in Figure 5-18. Here you can choose whether to sum, average, or count the data in the field being graphed.

FIGURE 5-17
In this Graph Wizard dialog box, you choose how to group your data, and, if applicable, what range of data to graph.



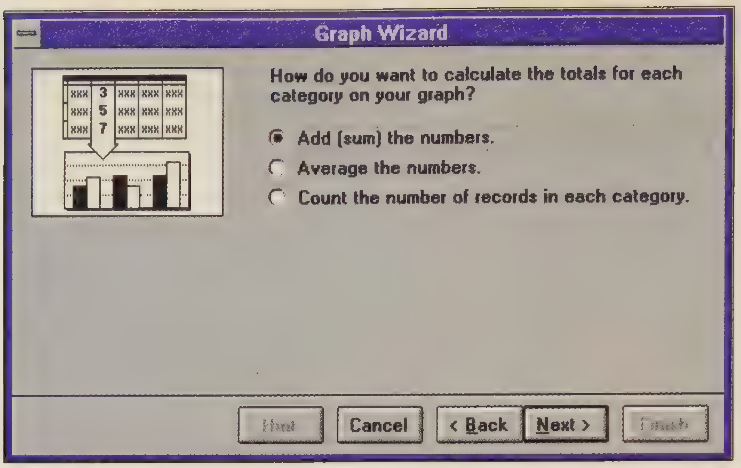
How do you want to group the data in the date field?

By Year

Do you want to use all the data?

● Yes.

○ No. Use only data between: and



How do you want to calculate the totals for each category on your graph?

● Add (sum) the numbers.
○ Average the numbers.
○ Count the number of records in each category.

FIGURE 5-18
In this Graph Wizard dialog box, you specify how you want to calculate the totals for each category of data in the graph.

8. Select the option button Count The Number Of Records In Each Category and click on the Next button. You simply want Access to count the number of orders per quarter.

   In a moment, you will see the Graph Wizard dialog box shown in Figure 5-19, where you can choose the type of graph to use.

9. The bar graph in the lower-left corner is selected; leave it selected and click on the Next button.

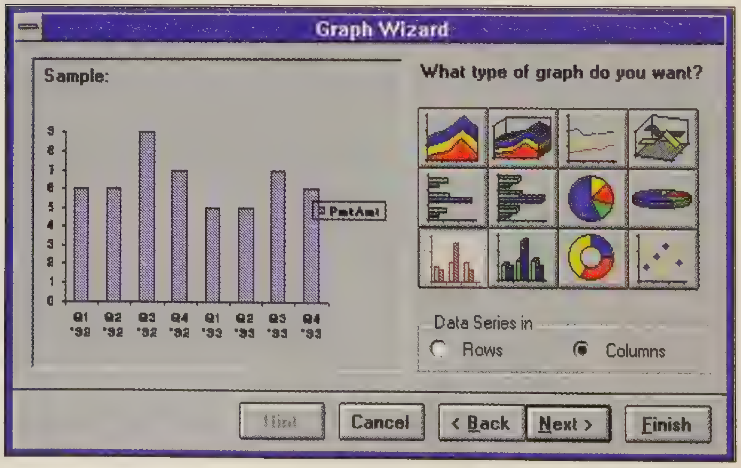
   Access requests a chart title, and also asks whether you want to include a legend.

TIP

You can click on the button for any of the graph types to see a sample graph on the left side of the dialog box.

10. Enter **Number of Sales Per Quarter 1992-1993** as the chart title, select No for the legend, and then click on the Next button.

    Access displays the final Graph Wizard dialog box.



What type of graph do you want?

Data Series in
○ Rows ● Columns

FIGURE 5-19
This Graph Wizard dialog box lets you select a graph type and choose whether to graph the data from columns or rows. When using data from Access, you should leave the Columns option selected.

11. Click on the Finish button to view the graph.

    It may take some time, but eventually you should see a graph like the one in Figure 5-20.

12. Save the graph by choosing File, Save Form, entering **92-93QuarterlySales** in the Save As dialog box that appears, and clicking on OK.

13. Double-click on the graph's Control-menu box.

    Access closes the graph and returns you to the FRUITFUL Database window.

ADDING AND EDITING DATA BY USING FORMS

Sometimes you may want to use forms to browse through your data. However, the real purpose of forms is often to make it easier for you, or someone else, to enter and edit data. Especially for users with little or no computer experience, forms can be much less intimidating than the datasheet, both because forms tend to present information in a relatively uncluttered fashion and because they closely resemble the paper forms with which most of us are familiar.

In forms, as in the datasheet, you need to know how to find the records that you want to edit. Once you're there, you need to know a few editing strategies. Fortunately, the techniques for navigating in forms are basically the same as those for moving around in the datasheet. For instance, you press Tab to move to the next field and Shift+Tab to go to the previous one, and you press Home to move to the first field in a record and End to move to the last one. Forms also include all the standard navigation buttons, which you can use to move quickly to the first, last, previous, or next record. Refer to Lesson 3 if you need a refresher course on how to navigate or how to edit your data.

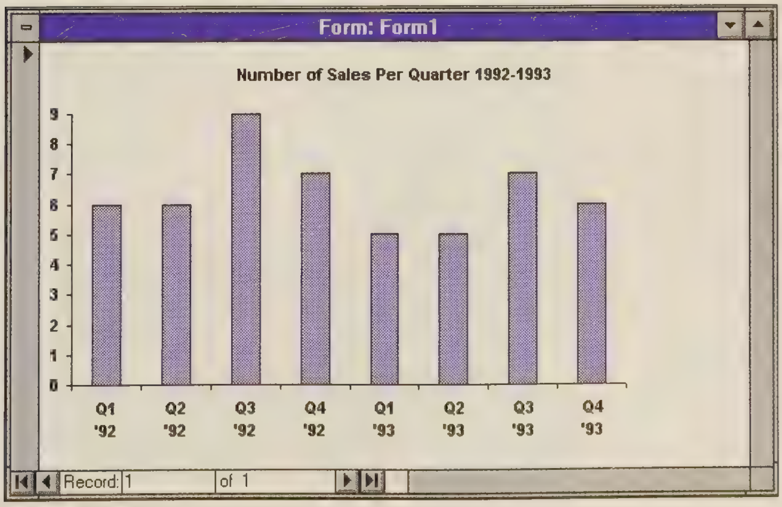


FIGURE 5-20
This is a bar graph showing the number of sales per quarter in the years 1992 and 1993.

ADD AND EDIT DATA BY USING A FORM

In this guided activity, you'll use the BFCustAutoForm you created earlier to add some new customers to the BFCustomers table, and also to make changes to some existing records in the same table.

1. Make sure the Form object button in the FRUITFUL Database window is selected and then double-click on BFCustAutoForm.

   Access displays the selected form, showing the first record for the underlying table, as shown in Figure 5-21.

TIP *If you want to see more fields at once, you can either resize or maximize the form window.*

2. Press Ctrl+End.

   Access moves you to the last field of the last record.

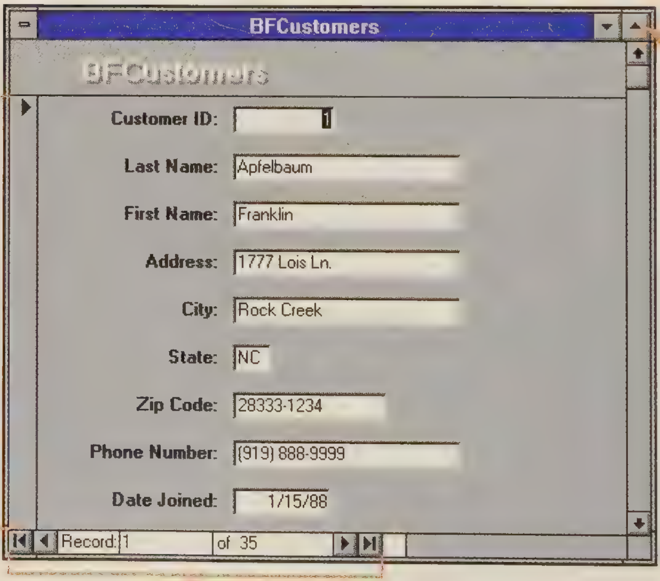
3. Press Tab or click on the New toolbar button.

   Access presents you with a new, blank record, as shown in Figure 5-22. As in Datasheet view, Access also saves any changes to the record you were working on when you move on to another record.

4. Press Tab to move to the LastName field (remember, Access supplies the value in the Counter field), and enter **Myrianthopoulos**

   Notice that Access automatically enters the record number 37 in the CustomerID field. (If you're confused about why there are 37 customer IDs but only 36 customers, don't forget that you deleted a record in Lesson 3.)

FIGURE 5-21 *You can open a form by double-clicking on its name in the Database window. As you can see, this form includes the standard navigation buttons, and initially displays the first record in the table.*



Customer ID:	1
Last Name:	Apfelbaum
First Name:	Franklin
Address:	1777 Lois Ln.
City:	Rock Creek
State:	NC
Zip Code:	28333-1234
Phone Number:	(919) 888-9999
Date Joined:	1/15/88

Record: 1 of 35

Maximize button

Record selector

Standard navigation buttons

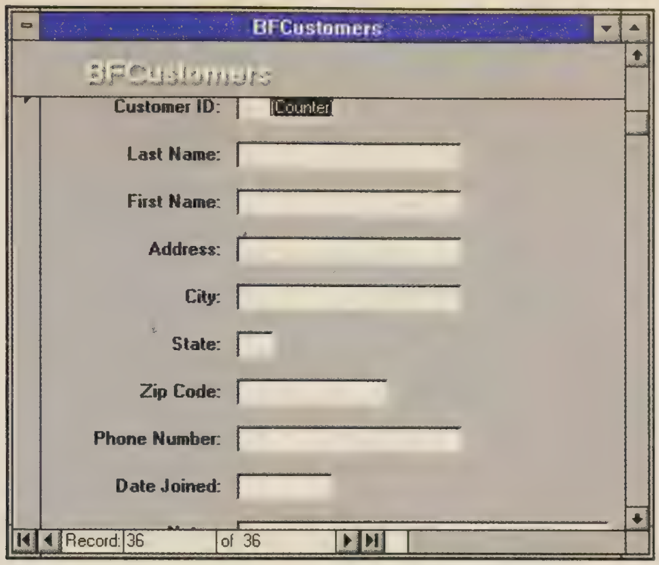


FIGURE 5-22

When you press Tab *from the final field of the final record in your table, Access displays a new, blank record into which you can enter data.*

5. Press Tab to move to the FirstName field, and enter **Zoe**

6. Enter the address **1357 Birch St. #7**, the city **Woodstock**, the state **NY**, the ZIP code **11223**, and the phone number **(917) 333-1234**

7. Finally, enter the date **4/19/94** in the DateJoined field, leave the Notes field blank for now, and leave the ExtraCatalogs field unselected (the default).

8. Press F5, noting that Access highlights the current record indicator in the lower-left corner of the screen. Then type 7 and press Enter.

   Access moves you to the seventh record in the table—the record for Mason Guggenheim.

9. Click on the label for the Notes field.

   Access selects this field. Although there's no text (if there were, it would become selected), Access places the insertion point within the field and adds vertical scroll bars.

10. Enter the following text:

    11/4/92: Mr. Guggenheim reported not receiving his order of pears, although the fruit was delivered to his front door. Perhaps this is a question of a hungry neighbor or passerby. Please send him a replacement box, rush delivery, and include a half dozen extra pears. Leave all packages at the back door in the future.

11. Click on the Last Record navigation button.

    Access displays the new record for Zoe Myrianthopoulos.

12. Click on the record selector; it's the long vertical bar on the left side of the window.

    The record selector should turn a darker shade of gray, indicating that this entire record is selected. You can see this effect in Figure 5-23.

13. Press [Del] to remove the new record. It turns out that Zoe was requesting a catalog, but didn't actually place an order.

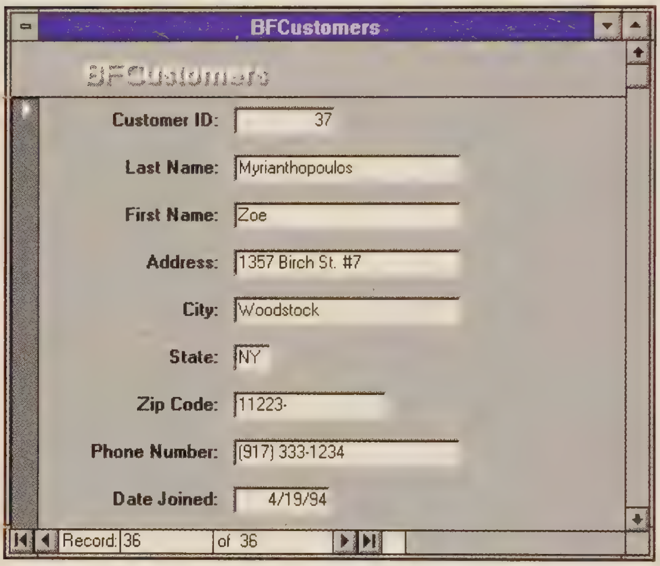
    Access displays the dialog box shown in Figure 5-24; you see the identical dialog box when you delete records in Datasheet view.

14. Click on OK or press [Enter] to approve the deletion.

15. Choose File, Close to close BFCustAutoForm.

FIGURE 5-23

When you click on the record selector in Form view, it takes on a darker shade of gray, as shown here.

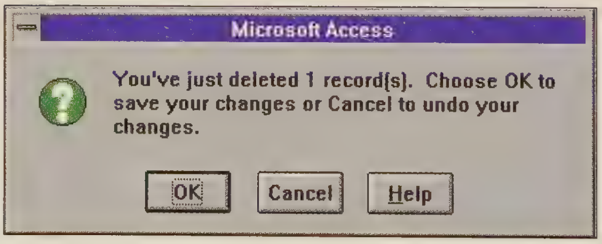


Customer ID: 37
Last Name: Myrianthopoulos
First Name: Zoe
Address: 1357 Birch St. #7
City: Woodstock
State: NY
Zip Code: 11223-
Phone Number: (917) 333-1234
Date Joined: 4/19/94
Record: 36 of 36

The record selector

FIGURE 5-24

When you select a record and press [Del], Access displays this alert box to double-check that you do indeed want to delete the record.



You've just deleted 1 record(s). Choose OK to save your changes or Cancel to undo your changes.

SORTING AND SELECTING DATA WITH FORMS

When you create forms, you can decide to show only selected data from the underlying table or query by choosing which fields to display in the form. But this way, you still see all records in the table or query, and you see them in the order specified by the primary key. You may instead want to view selected subsets of the data that appears in the form, and/or sort it into some other order. To accomplish these ends, you can use Quick Sort commands and filters, both of which you learned about in Lesson 4. As you experiment with these commands, keep in mind that you're changing which records are displayed and the order in which they're displayed, but you are *not* changing which fields are displayed or the order in which they are displayed. In other words, you're not making any modifications to the form itself.

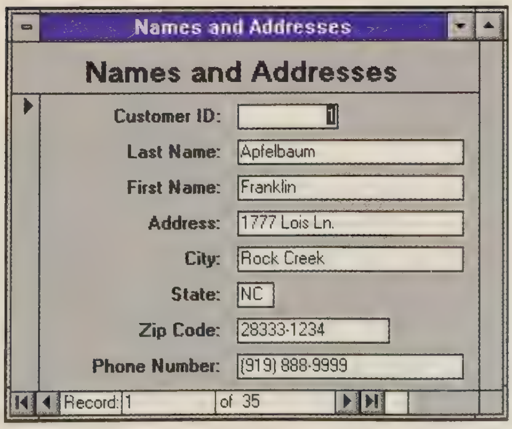
SORT AND SELECT RECORDS THROUGH A FORM

Here you will try sorting and selecting the data being viewed through a form. Most of the techniques used here should seem familiar. If not, feel free to flip back to Lesson 4 to jog your memory.

1. Check that you're in the FRUITFUL Database window, click on the Form object button if it's not already selected, and double-click on BFCustNameAddress to open it.

   Access displays the first record in BFCustomers, as shown in Figure 5-25. As you can see, this form doesn't display the DateJoined, Notes, or ExtraCatalogs fields.

2. Suppose you want to view the records in order by last name instead of customer ID. Press Tab to move to the LastName field in the current record, and click on the Sort Ascending toolbar button or choose Records, Quick Sort, Ascending.



Names and Addresses

Names and Addresses

Customer ID:	1
Last Name:	Apfelbaum
First Name:	Franklin
Address:	1777 Lois Ln.
City:	Rock Creek
State:	NC
Zip Code:	28333-1234
Phone Number:	(919) 888-9999

Record: 1 of 35

FIGURE 5-25 *Double-clicking on the BFCustNameAddress form in the FRUITFUL Database window opens the form you see here. Although this form doesn't display all fields in the underlying table, it will show all records, and it will show them, by default, in order by the table's primary key.*

NOTE

If you want to sort on more than a single field, you can switch to Datasheet view and select the desired fields using the techniques you learned in Lesson 4.

3. Click on the Last Record button.

   Access moves you to the last record; note that it's now the record for Carter Zheng, even though he's not the last customer listed when the records are arranged by customer ID number.

4. Click on the Previous Record button repeatedly.

   As you can see, Access has rearranged the records in ascending alphabetical order by last name (although not by first name).

5. Now click on the Edit Filter/Sort toolbar button or choose Records, Edit Filter/Sort.

   Access displays the Filter Design window, as shown in Figure 5-26. This is the exact same filter window you worked with in Lesson 4. Note that the LastName field already appears in the grid—as a result of the Quick Sort command of a moment ago.

6. Scroll through the list of fields at the top of the Filter Design window.

   All fields in the underlying table are included here, not just the fields displayed in the form.

TIP

If you select a field that is not displayed in the form, Access will sort or select based on that field but will not display it.

7. Double-click on the FirstName and State fields—in that order—to add them to the grid at the bottom of the Filter Design window.

8. Choose Ascending order for the FirstName field.

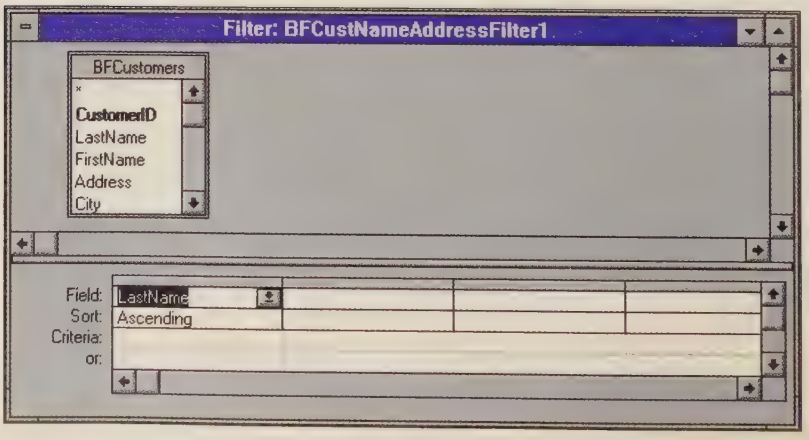
9. In the Criteria row of the State field enter **CA**. Then enter **NY** in the Or row of the State field.

10. Click on the Apply Filter/Sort toolbar button, or choose Records, Apply Filter/Sort.

    Access returns you to the form, as shown in Figure 5-27. This time, however, you're viewing only ten records.

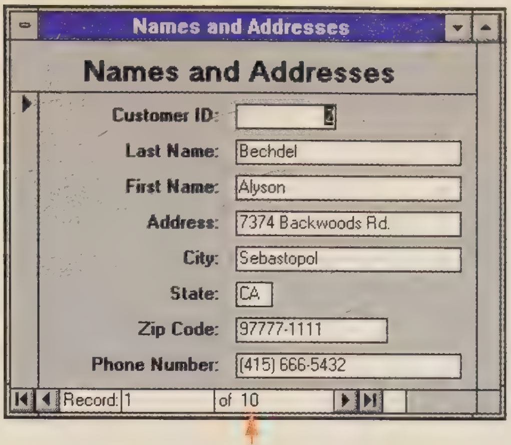
FIGURE 5-26

Whether you're working in the datasheet or in a form, clicking on the Edit Filter/Sort toolbar button or choosing Records, Edit Filter/Sort brings up the Filter Design window shown here.



Field: LastName
Sort: Ascending

FIGURE 5-27
This form is now displaying only records from California and New York. Notice that the total number of records displayed has dropped to ten.



Customer ID: 6
Last Name: Bechdel
First Name: Alyson
Address: 7374 Backwoods Rd.
City: Sebastopol
State: CA
Zip Code: 97777-1111
Phone Number: (415) 666-5432
Record: 1 of 10

Total number of records

11. Scan through the records by clicking on the Next Record button repeatedly.

    Notice that the records are in order by last name, not customer ID, and that only records for customers from either New York or California are displayed. Continue until you reach the final record, noting that Zhengs are in order by first name as well as last name.

12. Double-click on the form's Control-menu box.

    Access closes the form and returns you to the Database window.

PREVIEWING AND PRINTING FORMS

Usually, when you want printed output, you generate a report; you'll learn how to do this in Lesson 6. In some cases, however, you may want to print some of the forms you've created. And before you print, you might want to take a look at an on-screen preview of the form, to get a sense of what it will look like when printed. You'll learn how to do both of these things in the next guided activity.

PREVIEW AND PRINT A FORM

Now you will preview and then print one of the forms that you created earlier in this lesson.

1. If it's not already selected, click on the Form object button in the FRUITFUL Database window.

   Access displays all the forms in the FRUITFUL database.

2. Click on BFCustNameAddress to select it.

3. Click on the Print Preview toolbar button or choose File, Print Preview.

   You should see a preview of your form, much like the one pictured in Figure 5-28. If you want to get more of a close-up view, you can resize or maximize the form window.

TIP *You can also issue the Print Preview command from Form view to see a preview of the printed form.*

4. Click on the Close Window toolbar button or choose View, Form.

   Access removes the preview from view.

5. To print the form, make sure the printer is on, and click on the Print toolbar button or choose File, Print.

   You'll see a Print dialog box like the one shown in Figure 5-29. Certain settings, in particular the name of the printer at the top of the dialog box, may vary depending on your setup.

6. Leave all the default settings selected, and click on the OK button.

   Access should display a message telling you that it's printing your form. Eventually, your printer will generate a hard copy of the form, complete with all records in the underlying table or query.

TIP *You can also print forms from the Database window.*

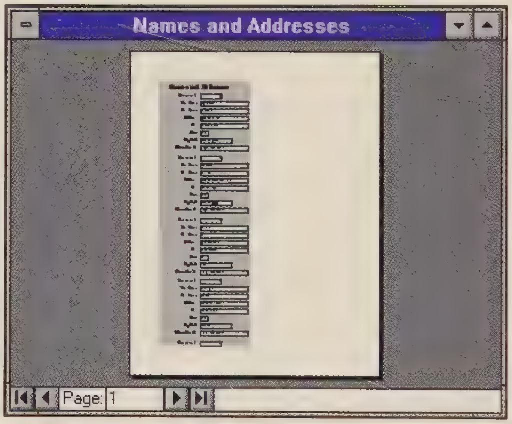
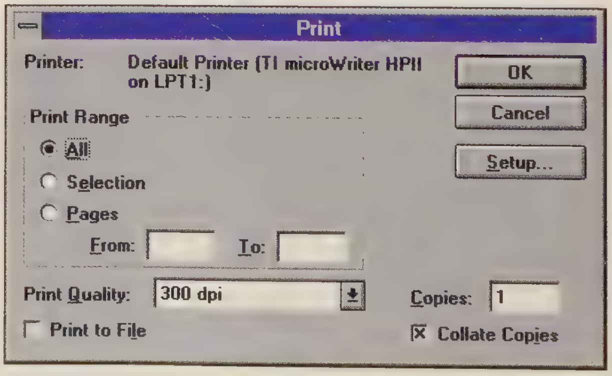


FIGURE 5-28
Here is a preview of what the BFCustNameAddress form will look like when printed. You can display this preview either by clicking on the Print Preview toolbar button or by choosing File, Print Preview.



Printer: Default Printer (TI microWriter HPII on LPT1:)

Print Range

● All

○ Selection

○ Pages

From: To:

Print Quality: 300 dpi

Copies: 1

☐ Print to File

☒ Collate Copies

FIGURE 5-29
Access displays this dialog box when you click on the Print toolbar button or choose File, Print. Here you can choose how many copies to print and what range of pages to print, among other things.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Create AutoForm			
Switch to form's Datasheet view	Choose View, Datasheet	Alt+v, s	
Switch to Form view	Choose View, Form	Alt+v, f	
Initiate Form Wizard			
Save Form	Choose File, Save Form	Ctrl+s	
Add new record to form			▸*
Sort form's records in ascending order	Choose Records, Quick Sort, Ascending	Alt+r, q, a	A Z ↓
Sort form's records in descending order	Choose Records, Quick Sort, Descending	Alt+r, q, d	Z A ↓
Open Filter Design window	Choose Records, Edit Filter/Sort	Alt+r, f	
Apply filter	Choose Records, Apply Filter/Sort	Alt+r, y	
Preview form	Choose File, Print Preview	Alt+f, v	
Close Print Preview	Choose View, Form	Alt+v, f	
Print form	Choose File, Print	Ctrl+p	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS

1. Tabular form
2. Form view
3. Form's title
4. Graph Wizard
5. Single-column form
6. Print Preview
7. Form's name
8. Datasheet view
9. AutoForm
10. Record selector

DEFINITIONS

a. Single-column form that Access generates for you based on fields in selected table or query

b. Text displayed to right of form icon in Database window

c. Form in which each record is displayed on single row

d. Text displayed at top of form when it's open

e. Vertical bar at left side of forms that you can use to activate designated record

f. View in which your form looks much like paper form

g. View in which data in any type of form is laid out in series of columns and rows

h. Form in which all fields are laid out vertically in one column

i. View in which your form looks much as it will look when printed

j. Access tool for evaluating and displaying your data as graph

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. What type of fields are automatically displayed as check boxes in forms?

   a. Yes/No fields

   b. Date fields

   c. Memo fields

   d. OLE object fields

2. Tabular forms display:

   a. All records in a single screen

   b. All fields in a single row

  - **c.** All fields in a single column
  - **d.** Records in a spreadsheet-like format

3. When the last field in the last record is selected and you press Tab when you're in a form:
   - **a.** Access beeps and does nothing.
   - **b.** Access saves the current record, creates a new record, and activates its first field.
   - **c.** Access displays a dialog box, asking if you would like to add a new record.
   - **d.** Access cycles back to the first field of the first record in the table.

4. When you click on the AutoForm button, Access generates a simple form of what type?
   - **a.** Tabular
   - **b.** Graph
   - **c.** Main/subform
   - **d.** Single-column

5. When creating a filter to sort and select records for a form, you can choose from:
   - **a.** All fields displayed in the form
   - **b.** All fields in the underlying table or query
   - **c.** Fields in the order in which they're displayed in the form
   - **d.** Fields in the order in which they're displayed in the underlying table or query

6. When you want to conceal certain fields in a form, you must:
   - **a.** Use the Form Wizard.
   - **b.** Use a filter.
   - **c.** Use the Hide Columns command.
   - **d.** Select the fields in question and use the Delete command.

7. When you want to conceal certain records in a form, you must:
   - **a.** Use the Form Wizard.
   - **b.** Use a filter.
   - **c.** Use the Hide Columns command.
   - **d.** Select the records in question and use the Delete command.

8. Which text is displayed at the top of a form when it's open in Form view?
    - **a.** The form title
    - **b.** The form name
    - **c.** The form heading
    - **d.** The form nomenclature

9. The first thing you must select when creating a form is:
    - **a.** A Form Wizard
    - **b.** A form style
    - **c.** A form layout
    - **d.** A table or query upon which to base the form

10. You can think of an Access form as:
    - **a.** A container for your data
    - **b.** A tool primarily for sorting and selecting data
    - **c.** A window onto your data
    - **d.** A special type of table

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

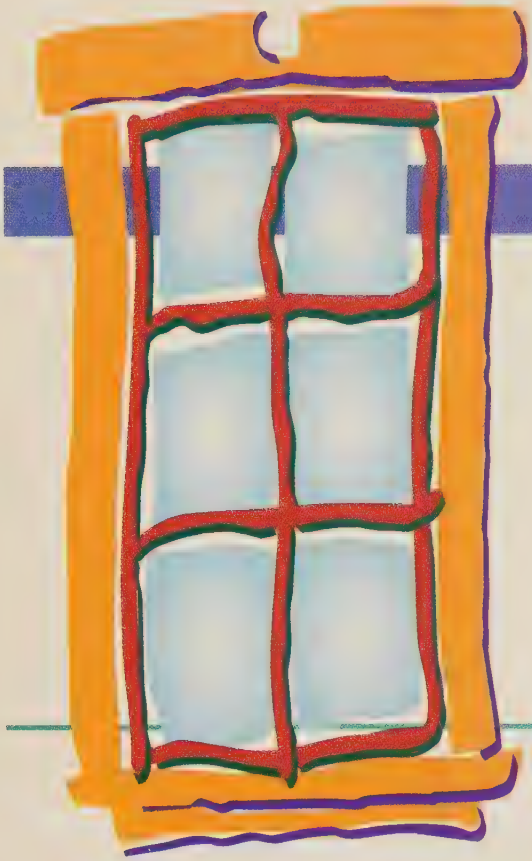
1. Describe briefly what Access does for you when you click on the AutoForm button (what type of form it creates, what fields are included, what's used as the form title, and so forth).
2. If not all fields show up on screen at once in a form, how can you fix the form? Name one possible solution.
3. How do you create a new, blank record in which to enter data when you're working in Form view? Mention both a mouse and a keyboard technique.
4. What type of form do you use if you want to display multiple records at once? Does this type of form work well for tables or queries that contain many fields?
5. Describe the exact steps involved in first previewing and then printing a form.
6. If you wanted to use a form to view only the records for those customers who had joined after 12/31/92, would you make this request to Access while using the Form Wizard or with a filter? Which criteria would you use?

7. Explain how you'd use a Quick Sort command to sort the records in BFCustAutoForm into ascending order first by last name and then by first name. (Hint: Think about whether you can do this in Form view.)

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Create a single-column form based on the BFOrders table, and include only the CustomerID, OrderDate, FruitType, and Quantity fields. Give the new form the Standard style, title it **Order Type and Quantity**, and save it as **OrdTypeQuant**. Then sort the orders into ascending order by fruit type.
2. Create a tabular form based on the Post91Cust query. Choose the Standard style, give the form the title **Post 1991 Customers,** and save it as **Post1991Cust**. With the form still open, create a new record and try entering the last name **Wildershaw,** the first name **Oscar,** and the date joined **12/31/91**. Now close the form and then open it again. Can you find the record you just added? Now open the BFCustomers table and see if you can find the "missing" record. Can you see why it shows up here but not in the form? Also, what happened to the fields from the table that weren't included in the form? When you're done, delete the record.
3. Sort the records in BFCustAutoForm into descending order by DateJoined, and display only those records for customers in California, Oregon, or New York state.
4. Open the UnpaidOrders query in Query Design view, and then add the FruitType, Quantity, Price, and ShippingAmt fields to the query. Click on the Run button to see the query's dynaset. Use File, Save Query As to save the revised query as **UnpaidOrdersNameAddress**. Build a single-column form based on this query. Include all fields from the query in the form, choose the Shadowed style for the form, and title the form **Unpaid Orders.** Finally, save the form under the name **UnpaidOrders.** Notice that it's just as easy to base a form on a multitable query as it is to base it on a table or a single-table query.



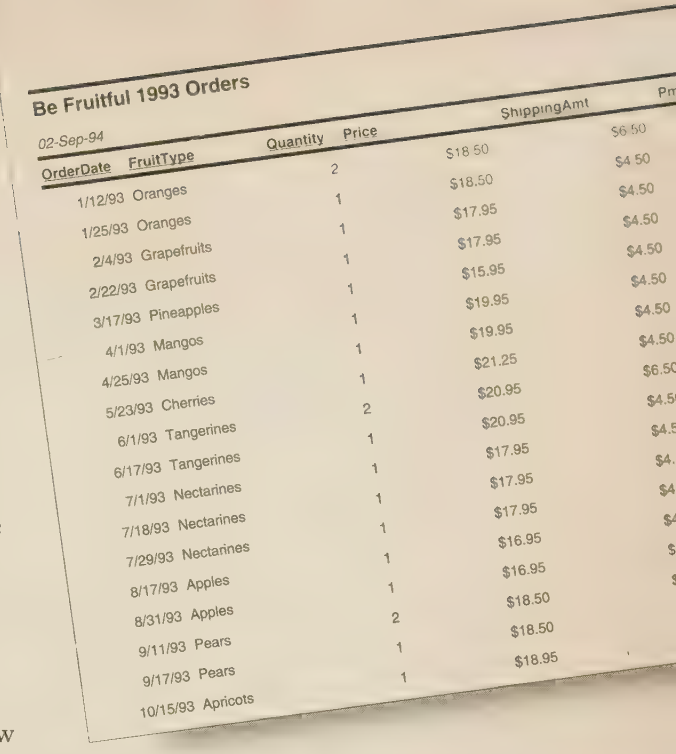
LESSON 6

GENERATING REPORTS AND MAILING LABELS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create an AutoReport.*
- *Use a Report Wizard to create a single-column report.*
- *Use a Report Wizard to create a tabular report.*
- *Use a Report Wizard to create a groups/totals report.*
- *Use a Report Wizard to create a summary report.*
- *Use the Mailing Label Wizard to generate mailing labels.*
- *Preview and print reports and mailing labels.*



Be Fruitful 1993 Orders

02-Sep-94

OrderDate	FruitType	Quantity	Price	ShippingAmt	Pr
1/12/93	Oranges	2	$18 50	$6 50	
1/25/93	Oranges	1	$18.50	$4 50	
2/4/93	Grapefruits	1	$17.95	$4.50	
2/22/93	Grapefruits	1	$17.95	$4.50	
3/17/93	Pineapples	1	$15.95	$4.50	
4/1/93	Mangos	1	$19.95	$4.50	
4/25/93	Mangos	1	$19.95	$4.50	
5/23/93	Cherries	1	$21.25	$4.50	
6/1/93	Tangerines	2	$20.95	$6.50	
6/17/93	Tangerines	1	$20.95	$4.5	
7/1/93	Nectarines	1	$17.95	$4.5	
7/18/93	Nectarines	1	$17.95	$4.	
7/29/93	Nectarines	1	$17.95	$4	
8/17/93	Apples	1	$16.95	$4	
8/31/93	Apples	1	$16.95	$	
9/11/93	Pears	2	$18.50	$	
9/17/93	Pears	1	$18.50		
10/15/93	Apricots	1	$18.95		

In this chapter, you try your hand at producing many types of printed output. You take advantage of several of the Access Report Wizards to create polished printouts of your data. You'll discover how to generate AutoReports with the click of a mouse button. You'll also use specialized Report Wizards to create single-column reports, tabular reports, groups/totals reports, and summary reports. Finally, you'll learn how to produce mailing labels, and how to print reports and mailing labels.

WHEN AND WHY TO USE REPORTS

As mentioned in Lesson 1, you generally use reports when you need professional-looking printed output. You might have to provide handouts for a presentation; or you may need to share information with someone who isn't familiar with Access, doesn't have access to a computer, or simply prefers spreading pages out on a desk to viewing them on a computer screen. Although you can print datasheets and forms, reports look more polished and give you a great deal more control over how your data is presented. In addition, you can take advantage of reports that automatically generate summary data such as totals and grand totals.

When creating reports, as when creating forms, you should be able to satisfy many of your basic needs by using Wizards. You'll learn how to use a number of different Report Wizards in this lesson. The reports that you create with Wizards may require a certain amount of fine tuning, however. The next lesson explains how to modify existing reports in Design view.

CREATING AN AUTOREPORT

As you can probably guess, you can create AutoReports by choosing the table or query on which to base the report and then clicking on a single button. Like the AutoForm Wizard, the AutoReport Wizard doesn't ask you for any input but instead tracks down the information it needs just by evaluating the selected table or query. The Wizard then builds a basic report that includes every field from the table or query arranged in a single column, with field names (or captions) to the left to identify the fields, and today's date and the name of the table or query at the top as a report heading.

CREATE AN AUTOREPORT

In this guided activity, you'll create an AutoReport based on the BFCustomers table.

1. Get into Access, if you're not there already. Then choose File, Open Database or click on the Open Database toolbar button, and, in the Open Database dialog box that appears, choose the FRUITFUL.MDB database in the FRUITFUL directory.

   You'll see the FRUITFUL Database window with the Table object button selected and the names of all tables displayed.

2. If the BFCustomers table is not already selected, click on it to select it.
3. Click on the AutoReport toolbar button.

   After a while, Access displays a report like the one you can see in Figure 6-1. All fields in the table are laid out in a single column, with field names or captions to the left as identifiers, and the table name and today's date serving as the report header. Notice that you're looking at the data for the first record in the BFCustomers table. In an AutoReport, records are always in the same order they have in the underlying table or query.

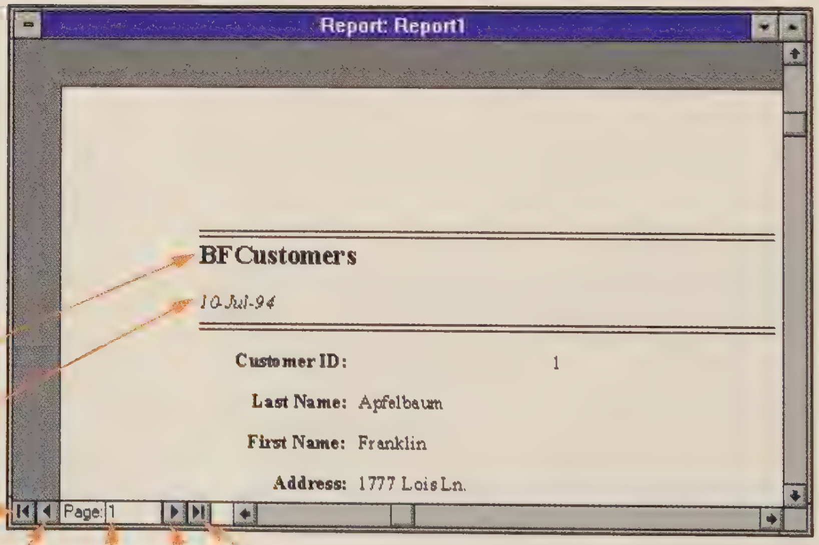
TIP *You can also create AutoReports from within Datasheet view.*

4. Scroll down using the down arrow on the vertical scroll bar.

   You'll see the second record in the table. Access fits as many records as possible—in this case, two—on a single page.

FIGURE 6-1

If you highlight the name of a table in the Database window and click on the AutoReport button, Access generates a report like the one shown here.



BFCustomers

10-Jul-94

Customer ID: 1

Last Name: Apfelbaum

First Name: Franklin

Address: 1777 Lois Ln.

5. Scroll down to the end of the page.

   You should see the page number that Access has inserted automatically. Notice the navigation buttons in the lower-left corner of the screen. These navigation buttons enable you to move from page to page in the report, rather than from record to record.

6. Click on the Last Page navigation button, and then scroll up to see the data on this page.

   Access displays the last page in the table, and you can verify that the records are in the same order here as they are in the underlying table.

7. Click twice on the Previous Page button.

   Access moves up two pages in the report.

8. Press F5 or double-click on the current page indicator; then type **6** and press Enter.

   Access moves you to the sixth page of the report.

9. If necessary, scroll up or down until you see the Notes field for Shelly Wintergreen.

   The Notes text is wrapped so that it appears in many rows.

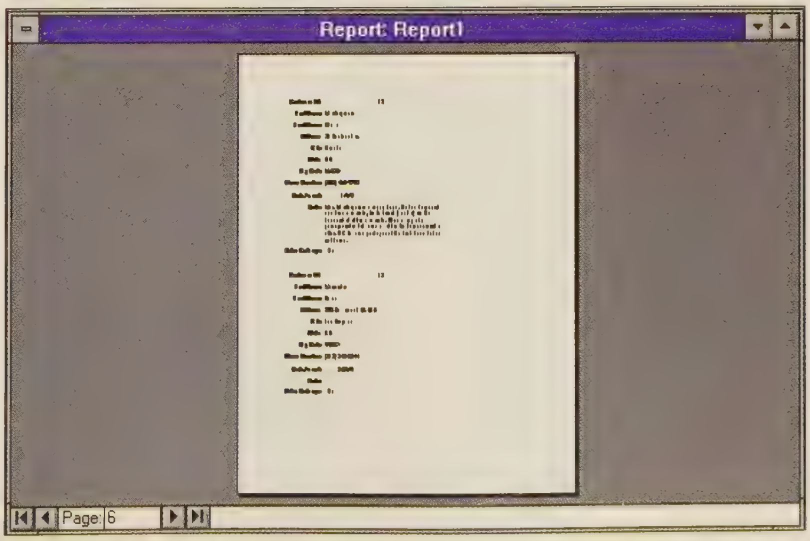
10. Place the mouse pointer over the report, noting that it takes on the shape of a magnifying glass.

11. Click on the Zoom toolbar button or click on the report.

    Access shrinks the report so that you can see an entire page on the screen at once, as shown in Figure 6-2. This display gives you a much better sense of the page layout, even though you can't really read what's on the page.

TIP *If you want to see more of your report at once without reducing the size of the text, you can maximize the report window.*

FIGURE 6-2 *When you click on the Zoom toolbar button or click on the report itself, Access alternately "zooms out" to give you an overview, as shown here, and "zooms in" again to give you more of a close-up view.*



12. Again, click on the Zoom toolbar button or click on the report.

Access returns the report to its original magnification. If you click on the report, you'll see a magnified view of the portion of the report you clicked on.

13. Choose File, Close or click on the Close Window toolbar button to close the report.

Because you haven't saved the report, Access displays an alert box asking whether you want to save the new report. You'll also see this now-familiar dialog box when you choose File, Save.

14. Click on Yes or press Enter to save the report.

Access displays a Save As dialog box that prompts you for a report name.

15. Enter **BFCustAutoReport** as the report name and click on OK to save the report.

Access saves and then closes the report, returning you to the FRUITFUL Database window.

16. Just to double-check that Access did indeed save the report, click on the Report object button.

Access displays any reports associated with the FRUITFUL database. As you can see in Figure 6-3, the BFCustAutoReport you just created and saved is displayed here.

USING THE REPORT WIZARDS

If your needs are quite basic, you might be able to get away with using an AutoReport. Often, however, you'll want to have more control over your reports—choosing their layout, deciding which fields to include and what order they should have, determining how text should be laid out on the page, and more. If so, you can use one of several Report Wizards supplied with Access. Using a Report Wizard is very similar to using one of the

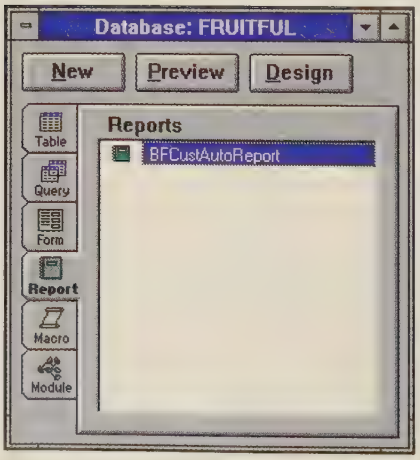


FIGURE 6-3
Once you save a report, its name is displayed in the Database window when you click on the Report object button. As you can see, BFCustAutoReport is now displayed in the FRUITFUL Database window.

Form Wizards: Access prompts you for information and then constructs a report based on your replies.

As in any other Wizard, you can click on the Back button at any time to move back one step, and you can click on the Hint button to get additional information about the available choices before you proceed.

CONSTRUCT A SINGLE-COLUMN REPORT WITH A REPORT WIZARD

Next you will create a single-column report using the Single-Column Report Wizard. In a **single-column report**—as in a single-column form—all fields are displayed in a single column. Actually, the AutoReport you created earlier is a simple single-column report.

1. Choose the Report object button in the FRUITFUL Database window and click on the New button; you can use this technique to initiate any one of the Report Wizards.

   Access displays the New Report dialog box, as shown in Figure 6-4.

2. Click on the downward-pointing arrow to the right of the Select A Table/Query drop-down list box.

   Access displays an alphabetical list of the available tables and queries. This is where you pick the data source for your report.

3. Click on the BFCustomers table and then click on the Report Wizards button.

   After a moment, Access displays the Report Wizards dialog box shown in Figure 6-5. Here is where you choose which type of report to create. Highlighting the name of a Report Wizard displays a description of that Wizard at the bottom of the dialog box.

4. Since Single-Column is already selected, click on OK to choose that Wizard.

   You'll see the initial Single-Column Report Wizard dialog box shown in Figure 6-6. Here you can choose which fields to include in the report, and the order in which they are displayed.

FIGURE 6-4

When you choose the Report object button in the Database window and click on New, Access displays this dialog box. From here, you can choose a table or query on which to base your report.

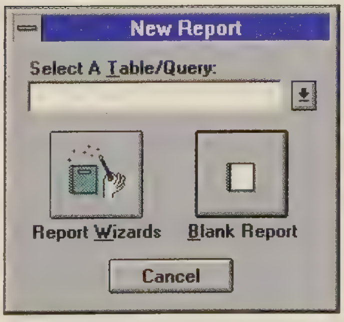
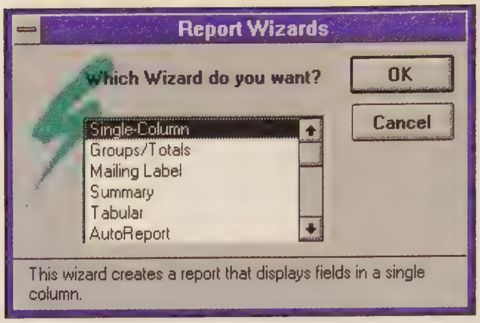


FIGURE 6-5

In this Report Wizards dialog box, you choose which Report Wizard to use.

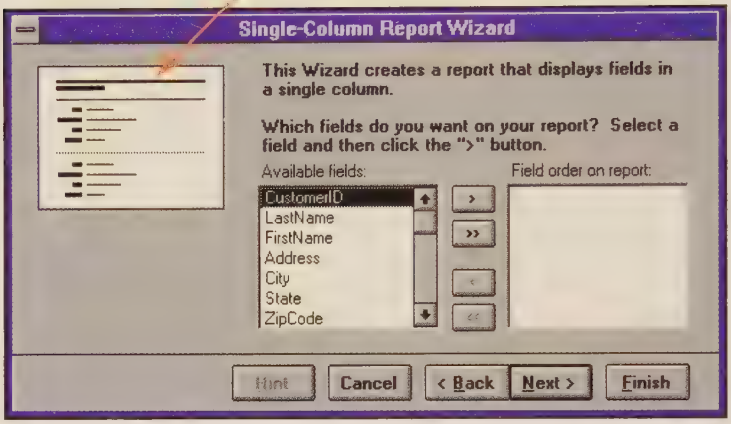


This wizard creates a report that displays fields in a single column.

FIGURE 6-6

Here is where you choose which fields from the selected table or query to include in your report. The order of the fields in the list box on the right determines their order on the report.

Sample single-column report



This Wizard creates a report that displays fields in a single column.

Which fields do you want on your report? Select a field and then click the ">" button.

5. Click the >> button.

   Access moves all fields names over to the Field Order On Report list box. If you want to include all or most fields in the form, it's generally quicker to add them all and then remove a few.

TIP

If you want to change the existing order of fields, you can't use the >> button. You must instead use the > button to add the fields one by one in the desired order.

6. Noting that the CustomerID field is selected, click on the < button.

   Access removes the CustomerID field from the list of fields to be included in the report.

7. Scroll down until you can see the DateJoined field, click on it to select it, and click on the < button.

   Access removes the DateJoined field from the list of fields to be included in the report.

8. Click on the < button two more times.

   Access removes the Notes and ExtraCatalogs fields from the list of fields to be included in the report.

9. Click on the Next button to move on to the next Report Wizard dialog box.

Access displays the Report Wizard dialog box shown in Figure 6-7. Here you choose which fields you want to sort by. When using a Report Wizard, you can sort only in ascending order and can sort only on fields that also appear in the report. However, you can modify the report later in Design view to bypass these limitations.

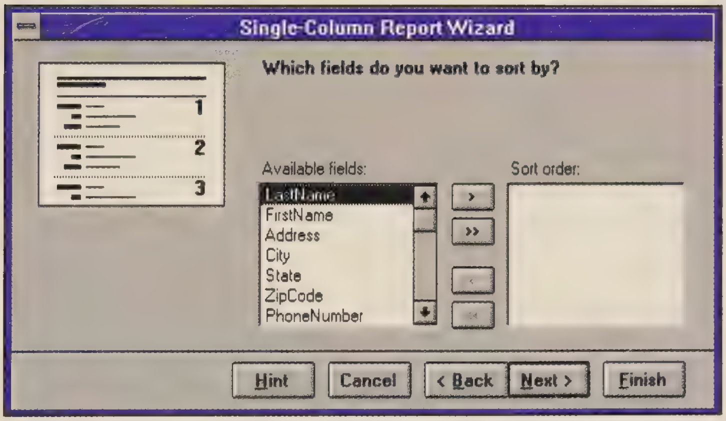
10. Click on the > button twice.

    Access moves the LastName and FirstName fields over to the Sort Order list box.

11. Click on the Next button.

    You should see the Report Wizard dialog box shown in Figure 6-8. From here, you choose one of three styles for your report, as well as the page orientation (if you're using a laser printer), and line spacing. ***Landscape*** *orientation is when the page is laid out horizontally, and* ***portrait*** *orientation is when the page is laid out vertically.*

12. The Executive option button is selected by default, and a sample of this style is displayed in the upper-left corner of the dialog box. Click on the Presentation option button, noting the new sample display in the upper-left corner. Preview the Ledger style in the same manner.



Single-Column Report Wizard

Which fields do you want to sort by?

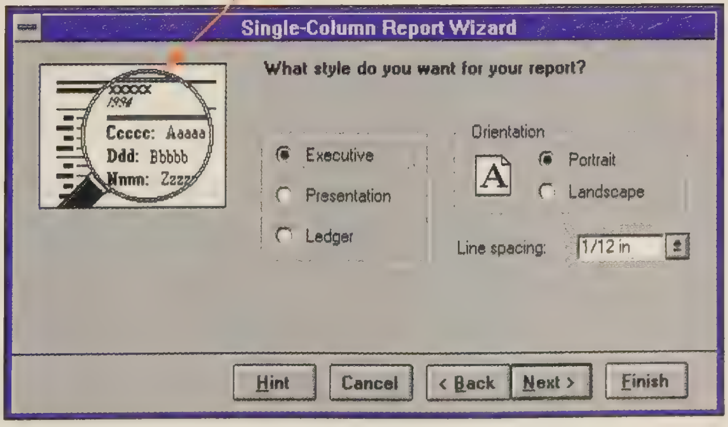
Available fields:
- LastName
- FirstName
- Address
- City
- State
- ZipCode
- PhoneNumber

Sort order:

FIGURE 6-7

In this Report Wizard dialog box, you choose which fields to sort by. As with filters or queries, the order of fields determines the way that data is sorted. Records are sorted in order by the first field, then, within these groups, by the second one, and so forth.

Preview of report style



Single-Column Report Wizard

What style do you want for your report?

● Executive
○ Presentation
○ Ledger

Orientation
● Portrait
○ Landscape

Line spacing: 1/12 in

FIGURE 6-8

This Single-Column Report Wizard dialog box is where you choose the style, line spacing, and page orientation of the report. If you have a laser printer, you have a choice between landscape (horizontal) and portrait (vertical) orientation.

13. Click on the Executive option button if it's not already selected, leave the Orientation and Line Spacing settings unchanged, and then click on the Next option button.

    Access displays the final Single-Column Report Wizard dialog box shown in Figure 6-9. Here you supply a title for your report, choose whether to print each record on a new page, and choose whether to show a report title on each page, among other things. Even if you don't expressly choose to display each record on a separate page, Access won't split a record across pages.

14. Enter the title **Customer Names and Addresses** for the report, leave the Show The Title On Each Page check box selected, make sure the option button See The Report With Data In It is selected, and click on the Finish button.

    In a moment, Access displays the report you just created, the first page of which is shown in Figure 6-10. The report contains data from the selected BFCustomers table. Unlike the AutoReport you just created, this report displays only designated fields from the underlying table.

TIP *As with forms, don't confuse a report's title with its name. The title is displayed at the top of the printed report; the report's name is displayed in the Database window when the Report object button is selected.*

15. Click on the Last Page button.

    Access displays the last page in the report. Since you chose to sort by the LastName and FirstName fields, this page includes all the Zhengs in order by both last name and first name. Note that the report title and date show up on each page.

16. Choose File, Save.

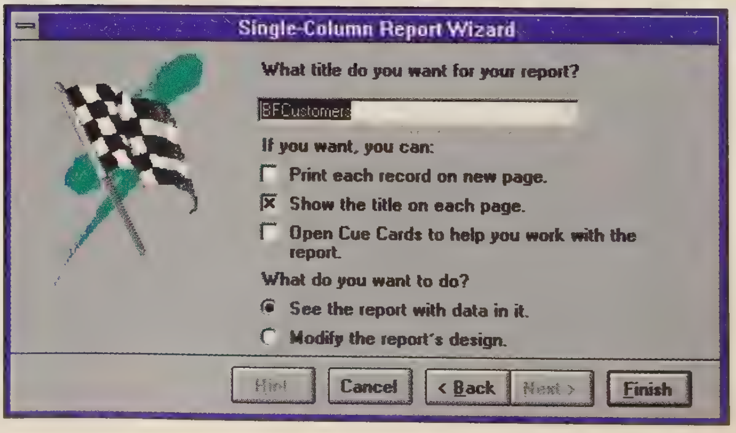
    You'll see the Save As dialog box, asking for a name for your report.

17. Enter **BFCustNameAddress** as the report name and click on OK.

    Access names and saves the report.

18. Choose File, Close or double-click on the Close Window toolbar button.

    Access closes the report and returns you to the FRUITFUL Database window.



Single-Column Report Wizard

What title do you want for your report?

BFCustomers

If you want, you can:

☐ Print each record on new page.

☒ Show the title on each page.

☐ Open Cue Cards to help you work with the report.

What do you want to do?

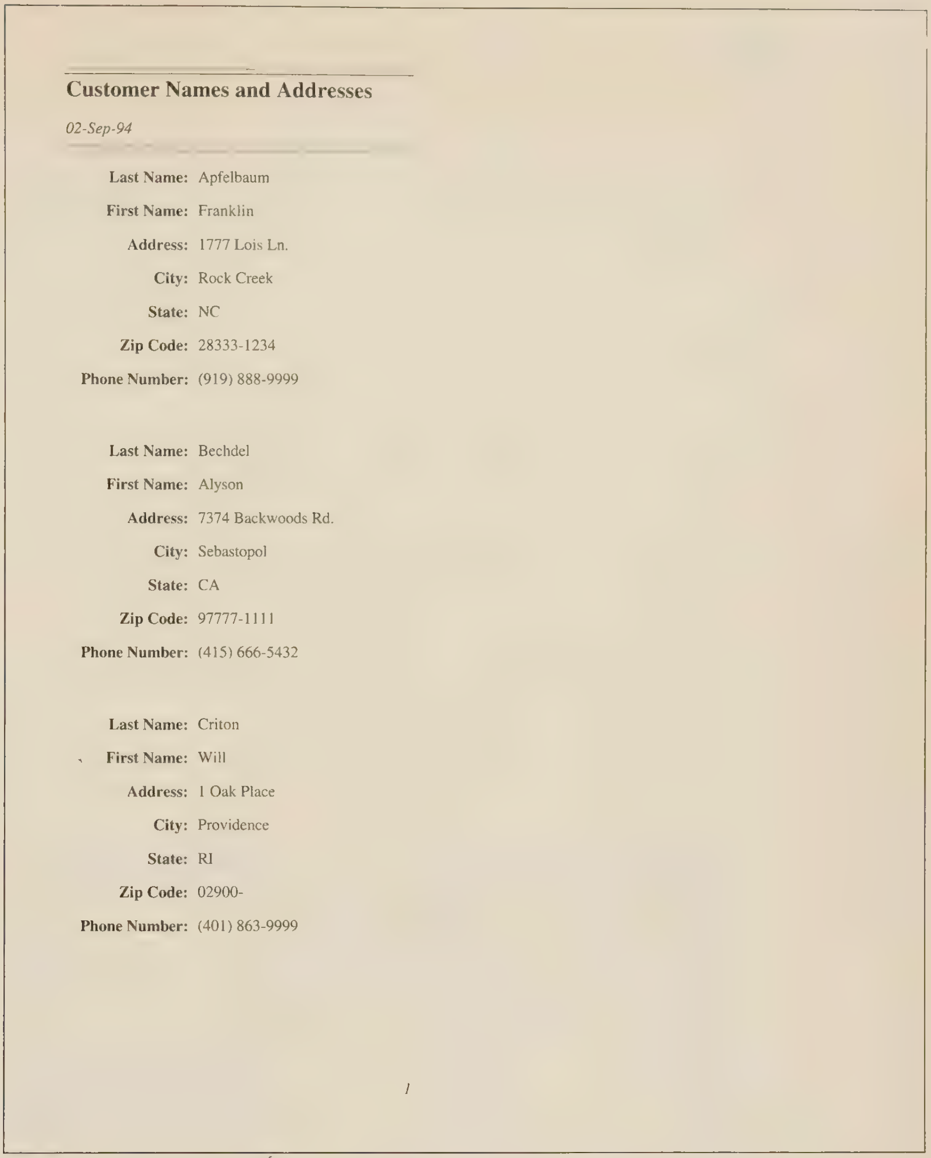
● See the report with data in it.

○ Modify the report's design.

FIGURE 6-9 *This final Single-Column Report Wizard dialog box is where you enter a title for the report, choose whether to print each record on a new page, and choose whether to view the report with data or in Design view.*

FIGURE 6-10

Here is the first page of the report you just created with the Single-Column Report Wizard. As you can see, these records are displayed in alphabetical order by last name, instead of in the order they have in the underlying table.



Customer Names and Addresses

02-Sep-94

Last Name: Apfelbaum
First Name: Franklin
Address: 1777 Lois Ln.
City: Rock Creek
State: NC
Zip Code: 28333-1234
Phone Number: (919) 888-9999

Last Name: Bechdel
First Name: Alyson
Address: 7374 Backwoods Rd.
City: Sebastopol
State: CA
Zip Code: 97777-1111
Phone Number: (415) 666-5432

Last Name: Criton
First Name: Will
Address: 1 Oak Place
City: Providence
State: RI
Zip Code: 02900-
Phone Number: (401) 863-9999

1

CREATING TABULAR REPORTS

The two reports you've created so far display all fields in a single column. This layout is pretty easy to read, but doesn't use space all that economically. If you want to view more records at a time, consider using a tabular report. Like tabular forms, **tabular reports** display all the fields for a single record in one row, and present multiple records at once. Field names or captions are displayed near the top of the report as column headings. Tabular reports don't tend to work well with lots of long Text or Memo fields, or with a large number of fields that may not all fit on a single page. At the same time, tabular reports can be an excellent means of presenting a large amount of data in a relatively small amount of space.

CREATE A TABULAR REPORT

Here you will use the Tabular Report Wizard to create a report based on a portion of Be Fruitful's orders data.

1. Make sure you're still in the FRUITFUL Database window, click on the Table object button, click on the BFOrders table, and click on the New Query toolbar button.

   Access displays the New Query dialog box.

2. Click on the New Query button.

   Access displays the Query Design window, which you learned about in Lesson 4.

3. Double-click on the BFOrders field list Title bar at the top of the Query Design window.

   Access selects all fields in the field list.

4. Drag on the selected list of fields, releasing the mouse button when the mouse pointer is over the Field row of the first column in the QBE grid.

   Access inserts all fields into the QBE grid.

5. In the Sort row of the OrderDate column, choose the Ascending sort order.

6. In the Criteria row of the OrderDate column, enter the criteria **>12/31/92 and <= 12/31/93**

   You're selecting all orders after 12/31/92 and on or before 12/31/93—that is, all orders in 1993.

7. Click on the Run toolbar button or choose Query, Run.

   Access displays a dynaset that includes just the orders from 1993.

8. Choose File, Save Query and enter the query name **1993Orders**

9. Double-click on the query's Control-menu box to close the query.

10. Make sure the Query object button in the Database window is selected, and click on the 1993Orders query you just created to select it.

11. Click on the New Report button in the toolbar.

    You'll see the New Report dialog box you saw earlier, but this time, the 1993Orders query is already selected in the Select A Table/Query drop-down list box.

12. Click on the Report Wizards button.

    Access displays the initial Report Wizards dialog box, where you can choose which Report Wizard to use.

13. Click on Tabular and then click on OK.

    Access displays the Tabular Report Wizard dialog box shown in Figure 6-11. Here is where you choose which fields to include in the report.

14. Click on the OrderDate field to select it and then click on the > button to move it over to the Field Order On Report list box.

15. Select the FruitType, Quantity, Price, ShippingAmt, and PmtAmt fields in the same manner.

    Access displays the OrderDate, FruitType, Quantity, Price, ShippingAmt, and PmtAmt fields in the Field Order On Report list box, in that order. The order of the fields here determines the order in which they'll be printed on your report.

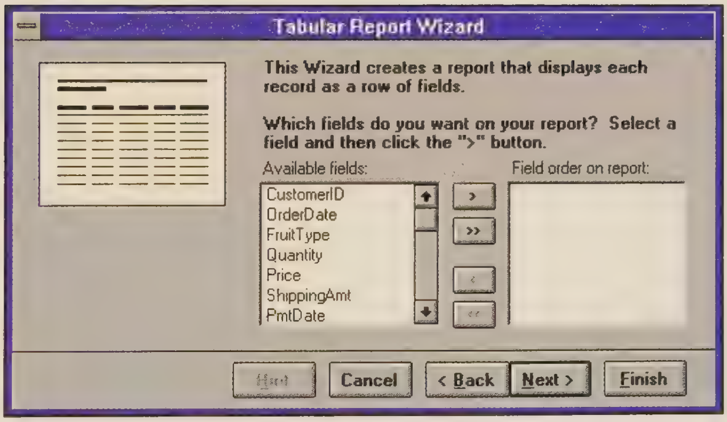
16. Click on the Next button.

    Access displays a Report Wizard dialog box for choosing which fields to sort on, as shown in Figure 6-12.

17. Click on OrderDate to select it, click on > to move this field over to the Sort Order Of Records list box, and then click on Next.

    You'll see the Tabular Report Wizard dialog box for choosing the style, line spacing, and page orientation for your report.

FIGURE 6-11
This Tabular Report Wizard dialog box is where you choose which fields to include in your report and what order they should have. The sample display in the upper-left corner of the dialog box gives you a general idea of what your report will look like.



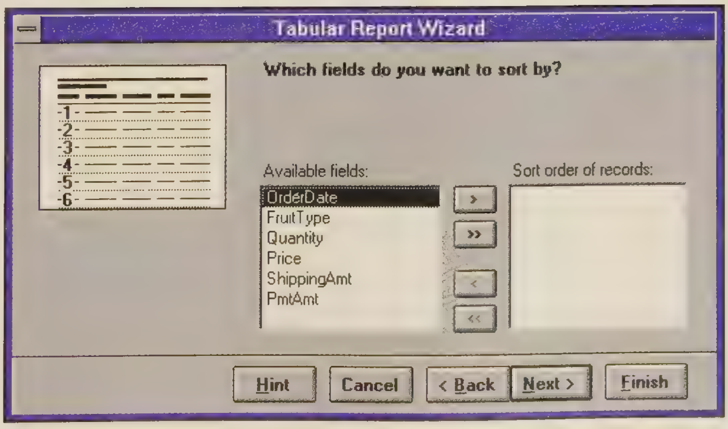
This Wizard creates a report that displays each record as a row of fields.

Which fields do you want on your report? Select a field and then click the ">" button.

Available fields:
CustomerID
OrderDate
FruitType
Quantity
Price
ShippingAmt
PmtDate

Field order on report:

FIGURE 6-12
In this Report Wizard dialog box, you choose which field or fields you want to sort by.



Which fields do you want to sort by?

Available fields:
OrderDate
FruitType
Quantity
Price
ShippingAmt
PmtAmt

Sort order of records:

18. Click on the Presentation option button, make sure the Portrait option button is selected, and then click on the Next button.

    Access displays the final Tabular Report Wizard dialog box, in which you enter a title for the report, and choose whether to see the report with data in it or in Design view, among other things.

19. Enter **Be Fruitful 1993 Orders** as the report's title, make sure the See The Report With Data In It option button is selected, and click on the Finish button.

    In a moment, Access displays the tabular report that you can see in Figure 6-13, displaying the data from your 1993Orders query in a tabular layout.

20. Notice that the report's column headings don't line up all that well with the data.

    This problem is easy enough to fix in Design view, as you'll learn in the next lesson. Although you'll frequently want to revise tabular reports in Design view, using the Tabular Report Wizard is still the quickest way to put together the basic report.

21. Notice the totals at the end of the report.

    In tabular reports, Access automatically calculates totals for Number fields.

22. Choose File, Save, enter **1993OrdersTabular** in the Save As dialog box, and press Enter or click on OK.

    Access returns you to your report, this time displaying its name in the Title bar to indicate that it has been saved.

23. Choose File, Close or click on the Close Window toolbar button to close the report.

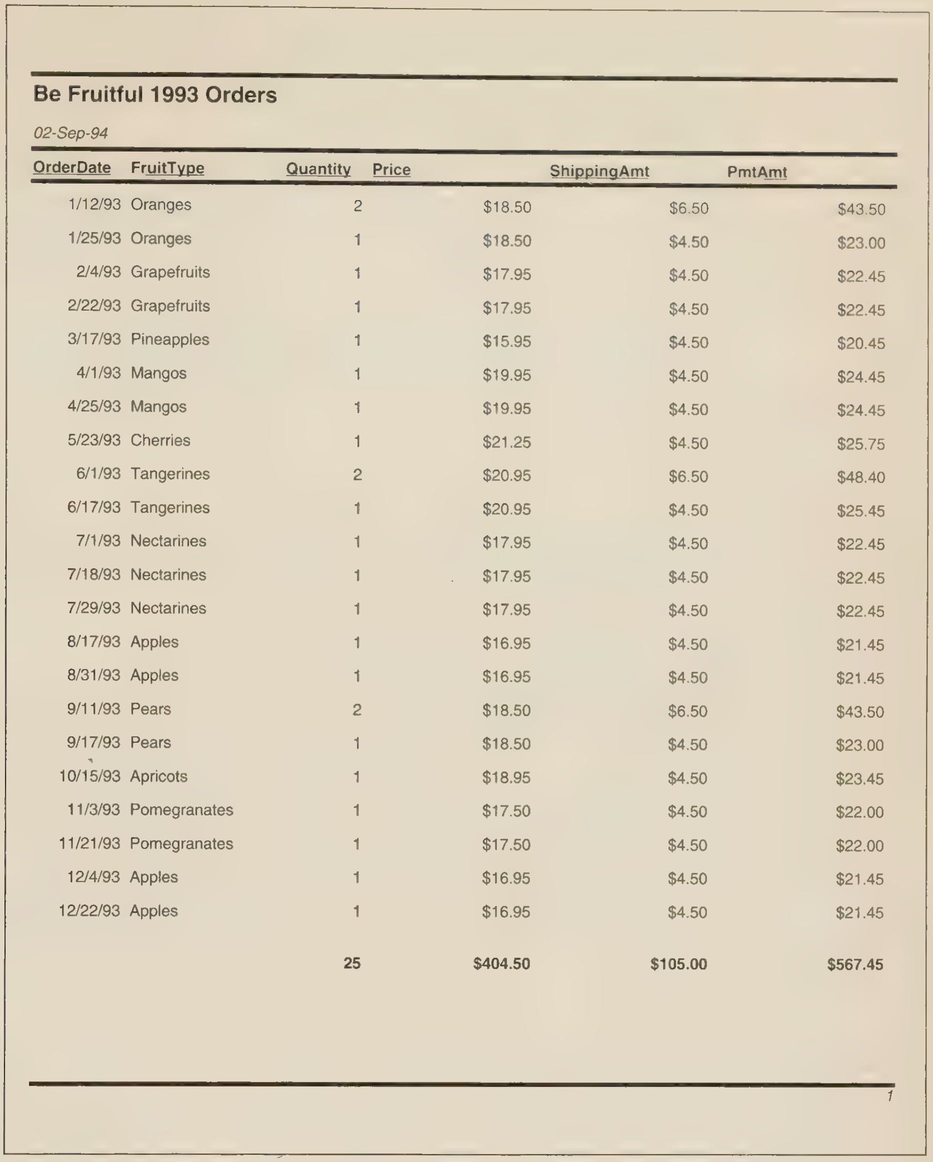
    Access returns you to the FRUITFUL Database window.

CREATING GROUPS/TOTALS REPORTS

As you just saw, Access automatically supplies totals for Number fields in tabular reports. Sometime, however, you may want break down your data into more manageable groups, and see the subtotals for those groups rather than just the grand totals for the entire batch of data. For example, you might want to see the total sales per year rather than just the entire sales over the life of the company. In such cases, you can use a **groups/totals report**—a report that groups records based on one or more fields, and provides totals for each group as well as grand totals at the end of the report. Although you'll often want to use groups/totals reports to see subtotals and grand totals for Number fields, you can also use this type of report to group data in Text fields and Date/Time fields. As an example, you could print a customer phone list, broken down by the first letter of the last name, with the letters of the alphabet displayed as group headings.

FIGURE 6-13

Here is the printout of a tabular report based on the 1993Orders query. Notice that the fields are arranged in the order you selected in the Wizard.



Be Fruitful 1993 Orders

02-Sep-94

OrderDate	FruitType	Quantity	Price	ShippingAmt	PmtAmt
1/12/93	Oranges	2	$18.50	$6.50	$43.50
1/25/93	Oranges	1	$18.50	$4.50	$23.00
2/4/93	Grapefruits	1	$17.95	$4.50	$22.45
2/22/93	Grapefruits	1	$17.95	$4.50	$22.45
3/17/93	Pineapples	1	$15.95	$4.50	$20.45
4/1/93	Mangos	1	$19.95	$4.50	$24.45
4/25/93	Mangos	1	$19.95	$4.50	$24.45
5/23/93	Cherries	1	$21.25	$4.50	$25.75
6/1/93	Tangerines	2	$20.95	$6.50	$48.40
6/17/93	Tangerines	1	$20.95	$4.50	$25.45
7/1/93	Nectarines	1	$17.95	$4.50	$22.45
7/18/93	Nectarines	1	$17.95	$4.50	$22.45
7/29/93	Nectarines	1	$17.95	$4.50	$22.45
8/17/93	Apples	1	$16.95	$4.50	$21.45
8/31/93	Apples	1	$16.95	$4.50	$21.45
9/11/93	Pears	2	$18.50	$6.50	$43.50
9/17/93	Pears	1	$18.50	$4.50	$23.00
10/15/93	Apricots	1	$18.95	$4.50	$23.45
11/3/93	Pomegranates	1	$17.50	$4.50	$22.00
11/21/93	Pomegranates	1	$17.50	$4.50	$22.00
12/4/93	Apples	1	$16.95	$4.50	$21.45
12/22/93	Apples	1	$16.95	$4.50	$21.45
		25	**$404.50**	**$105.00**	**$567.45**

1

BUILD A GROUPS/TOTALS REPORT

Next you will use the Groups/Totals Report Wizard to put together a report that sorts orders by year.

1. Make sure you're in the FRUITFUL Database window with the Table object button selected, click on the BFOrders table to select it, and then click on the New Report toolbar button.

   Access displays the New Report dialog box, this time with the BFOrders table selected in the Select A Table/Query drop-down list box.

2. Click on the Report Wizards button.

   You should see the first Report Wizards dialog box, from where you can choose which Report Wizard to run.

3. Click on Groups/Totals and click on OK.

   In a moment, Access displays the Groups/Totals Report Wizard dialog box shown in Figure 6-14; here is where you choose which fields to include in the report.

4. Click on OrderDate and then click on the > button. Use the same method to choose the FruitType, Quantity, Price, ShippingAmt, and PmtAmt fields, in that order.

   Access places all the selected fields in the Field Order On Report list box on the right side of the dialog box. As you can probably guess, fields are arranged in the report in the order in which you select them here.

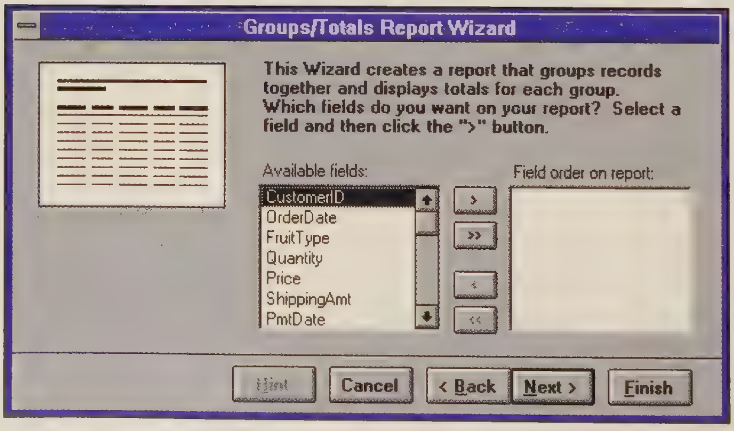
5. Click on Next.

   You'll see the Groups/Totals Report Wizard dialog box shown in Figure 6-15. This is where you choose which field or fields to use as the basis for grouping data in your report. You can pick anywhere from zero to four fields. If you choose more than a single field, all records in the largest group are arranged in order by the second group, and so forth.

6. Noting that OrderDate is selected, click on the > button to place that field in the Group Records By list box, and click on > again to use the FruitType field as the second "group by" field.

7. Click on the Next button to move on to the next Report Wizard dialog box.

   Access displays the dialog box shown in Figure 6-16. Here you choose how to group the data in each field that you've selected as a "group by" field.


Groups/Totals Report Wizard

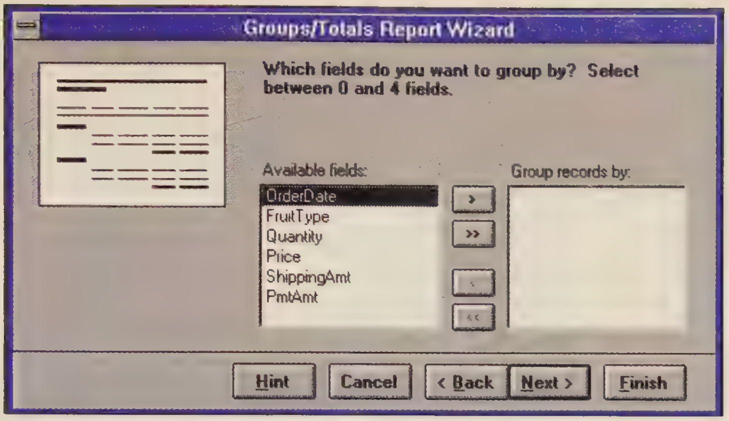
This Wizard creates a report that groups records together and displays totals for each group. Which fields do you want on your report? Select a field and then click the ">" button.

FIGURE 6-14

In this Report Wizard dialog box, you choose which fields to include in your groups/totals report. You select fields in the usual way, by clicking on the > button to choose the highlighted field and clicking on the >> button to choose all fields.

FIGURE 6-15

After deciding which fields to include in your report, you need to choose which fields to group your data by. The first field you pick represents the largest group, the second represents the second largest, and so on.



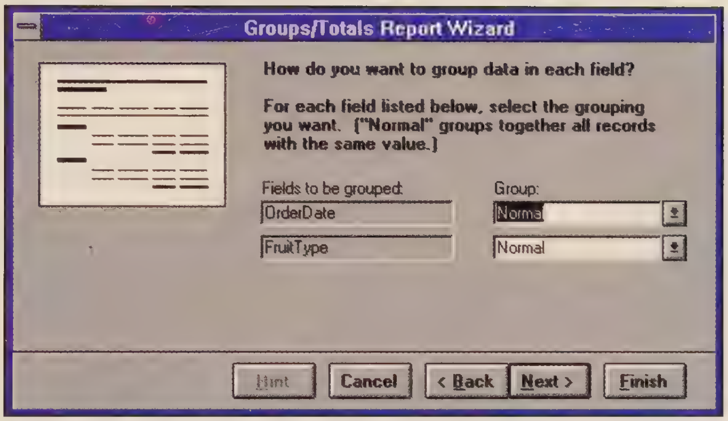
Which fields do you want to group by? Select between 0 and 4 fields.

Available fields:
OrderDate
FruitType
Quantity
Price
ShippingAmt
PmtAmt

Group records by:

FIGURE 6-16

This Report Wizard dialog box is where you decide how to group the data in the "group by" fields that you selected earlier. If you leave the Normal option selected, Access groups by the exact value in the field.



How do you want to group data in each field?

For each field listed below, select the grouping you want. ("Normal" groups together all records with the same value.)

Fields to be grouped:	Group:
OrderDate	Normal
FruitType	Normal

TIP

Access provides a wide variety of ways to group the data in the "group by" fields. For example, you can group by the first letter (or first several letters) of a Text field; you can group Date/Time fields by year, quarter, month, and more; and you can group Number fields by ranges (by tens, fifties, hundreds, and so on).

8. Choose Year from the drop-down list box to the right of the OrderDate field, leave Normal selected for the FruitType field (Normal means exact value), and then click on Next.

   You'll see the Report Wizard dialog box shown in Figure 6-17. Here you can choose which fields to sort by. Note that the only fields available are ones they haven't already used as "group by" fields, since your data is already being sorted by those fields.

9. Note that the Quantity field is selected, click on > to place it in the Sort Within Group By list box, and then click on the Next button.

   Access displays the Report Wizard dialog box for choosing the style, line spacing, and page orientation for your report.

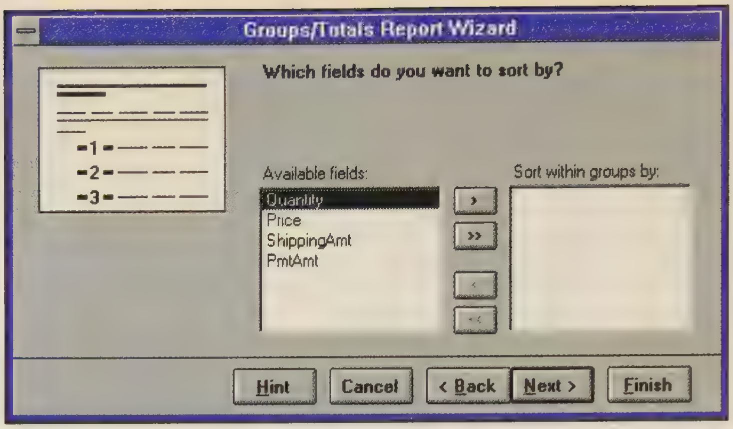


FIGURE 6-17

This Report Wizard dialog box enables you to choose more fields to sort by, in addition to the fields you already selected for grouping your data.

10. Choose the Portrait orientation, leave the Executive style selected, leave the Line Spacing setting unchanged, and click on Next.

    Access displays the final Report Wizard dialog box, where you can supply a report title and can choose to calculate percentages of the total, see the report with data in it, or view the report's design, among other things.

11. Enter the title **Orders Grouped by Year and Fruit Type** and click on the Finish button.

    After some delay, Access generates a groups/totals report, the first page of which is shown in Figure 6-18. As you can see here, the data is broken down by year and, within year, by fruit type. Access provides totals and percentages at the end of each group.

NOTE

As in the tabular report, the columns aren't aligned all that well in this report. This problem is not too hard to fix, as you'll learn in the next lesson.

12. Click on the Next Page navigation button to go to page 2 of your report, and then scroll down until you see the last data for 1988, as shown in Figure 6-19.

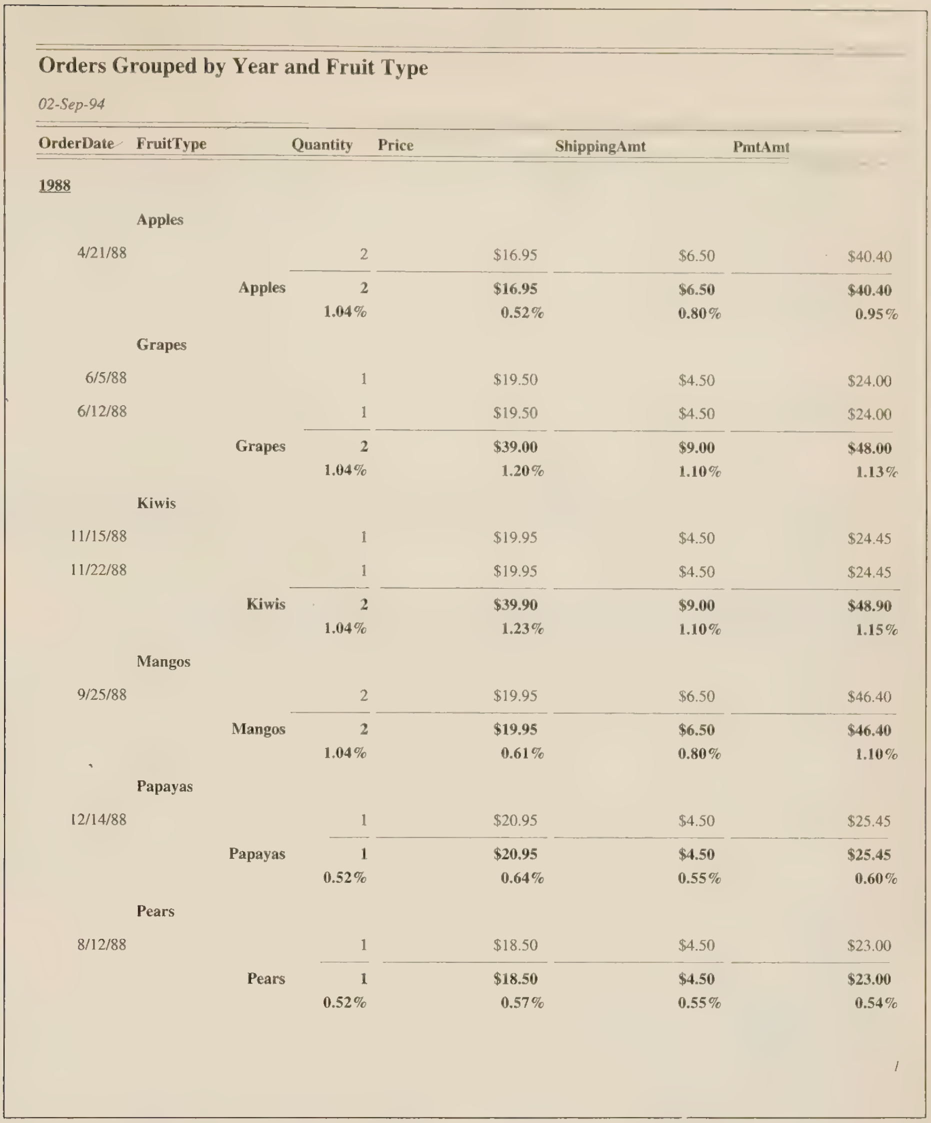
13. Click on the Last Page navigation button. If necessary, scroll up or down a bit so you can see the very last bit of data in the report, which should resemble the data shown in Figure 6-20.

14. Choose File, Save. In the Save As dialog box that appears, enter the report name **OrdersByYearAndFruit**. Then click on OK or press Enter to save the report.

15. Choose File, Close or click on the Close Window toolbar button to return to the Database window.

FIGURE 6-18

Here is the first page of a groups/totals report, with orders broken down by year and, within each year, by fruit type. At the bottom of each group is the total for the group, plus a figure showing the percentage of the grand total this amount represents.



Orders Grouped by Year and Fruit Type

02-Sep-94

OrderDate	FruitType	Quantity	Price	ShippingAmt	PmtAmt
1988					
	Apples				
4/21/88		2	$16.95	$6.50	$40.40
	Apples	**2**	**$16.95**	**$6.50**	**$40.40**
		1.04%	**0.52%**	**0.80%**	**0.95%**
	Grapes				
6/5/88		1	$19.50	$4.50	$24.00
6/12/88		1	$19.50	$4.50	$24.00
	Grapes	**2**	**$39.00**	**$9.00**	**$48.00**
		1.04%	**1.20%**	**1.10%**	**1.13%**
	Kiwis				
11/15/88		1	$19.95	$4.50	$24.45
11/22/88		1	$19.95	$4.50	$24.45
	Kiwis	**2**	**$39.90**	**$9.00**	**$48.90**
		1.04%	**1.23%**	**1.10%**	**1.15%**
	Mangos				
9/25/88		2	$19.95	$6.50	$46.40
	Mangos	**2**	**$19.95**	**$6.50**	**$46.40**
		1.04%	**0.61%**	**0.80%**	**1.10%**
	Papayas				
12/14/88		1	$20.95	$4.50	$25.45
	Papayas	**1**	**$20.95**	**$4.50**	**$25.45**
		0.52%	**0.64%**	**0.55%**	**0.60%**
	Pears				
8/12/88		1	$18.50	$4.50	$23.00
	Pears	**1**	**$18.50**	**$4.50**	**$23.00**
		0.52%	**0.57%**	**0.55%**	**0.54%**

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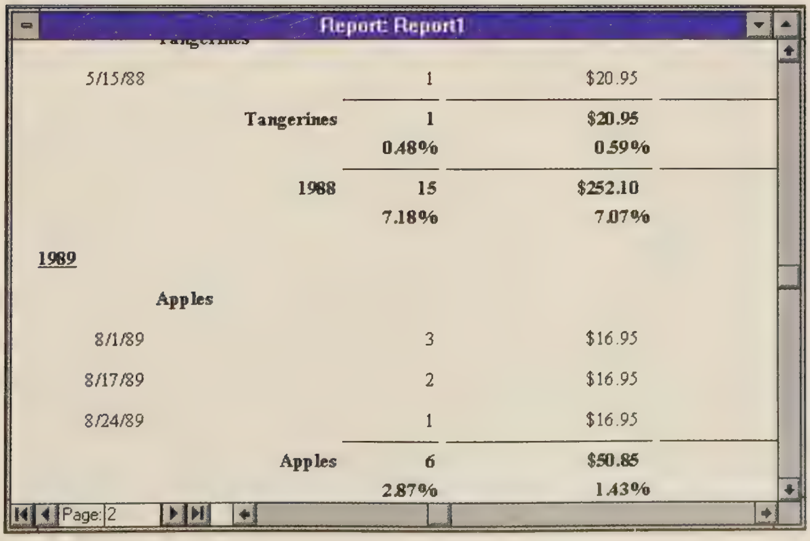
FIGURE 6-19

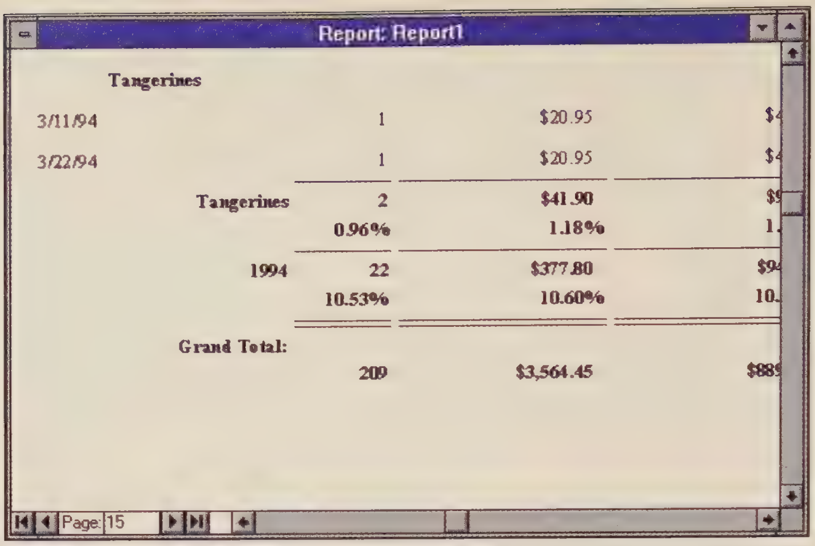
This portion of the groups/totals report displays not only the totals for the fruit subgroup Tangerines, but also the totals for 1988, as well as the percentage that these amounts represent of the grand totals for the entire set of data in the report.



5/15/88		1	$20.95
	Tangerines	**1**	**$20.95**
		0.48%	**0.59%**
	1988	**15**	**$252.10**
		7.18%	**7.07%**
1989			
	Apples		
8/1/89		3	$16.95
8/17/89		2	$16.95
8/24/89		1	$16.95
	Apples	**6**	**$50.85**
		2.87%	**1.43%**

FIGURE 6-20

This figure shows the grand totals at the end of the groups/totals report you created. Notice that Access displays not only the totals for 1994, but also the grand totals for all years.



Report: Report1

Tangerines			
3/11/94	1	$20.95	$4
3/22/94	1	$20.95	$4
Tangerines	**2**	**$41.90**	**$9**
	0.96%	**1.18%**	**1.**
1994	**22**	**$377.80**	**$9**
	10.53%	**10.60%**	**10.**
Grand Total:			
	209	**$3,564.45**	**$88**

CREATING A SUMMARY REPORT

If you have a lot of data, you might want to see subtotals and grand totals based on your data without seeing every single record in the database. If so, you can try out a **summary report**, which just shows group summary statistics and grand totals. Summary reports are much like groups/totals reports, but without all the detail provided by the individual records. This type of report presents a better overview of your data, enabling you to absorb the essential information without getting buried in the details.

PUT TOGETHER A SUMMARY REPORT

In this section, you'll build a summary report that shows orders arranged by year and, within year, by fruit type. In this case, however, the report will only show summary statistics and grand totals, not the details of each record. As you'll soon see, the data in this report should be much easier to assimilate than the data in the report you just created.

1. You should be in the FRUITFUL Database window. Make sure the Table option button is selected and click on the BFOrders table to select it.
2. Click on the New Report toolbar button.

   Access displays the New Report dialog box with the BFOrders table already selected.
3. Click on the Report Wizards button.

   You'll see the initial Report Wizards dialog box, asking you to choose which Wizard to use.

4. Click on Summary and click on OK.

   Access displays a Report Wizard dialog box that lets you choose which fields to group by; this dialog box is practically identical to the one for choosing "group by" fields you saw in the previous guided activity.

5. Click on OrderDate and click on >; then click on > again to choose the FruitType field. When you're done, click on Next.

   You'll see the Report Wizard dialog box for choosing how to group the data in each field; again, this dialog box is just the same as the one from the preceding guided activity.

6. Choose Year for OrderDate, leave Normal selected for FruitType, and then click on the Next button.

   Now Access displays a dialog box asking you to choose which fields to include in the report. In this case, you only see Number fields, since Access can't compute statistics based on any other kind of field.

TIP *Don't be mislead by this dialog box, which seems to imply that only the fields listed here will be included in the report. Remember that you already chose two "group by" fields—OrderDate and FruitType—which will also show up in the report.*

7. Click on the PmtAmt field, click on the > button, and click on the Next button.

   You'll see a Report Wizard dialog box requesting that you choose a report style and a page orientation.

8. Choose the Presentation style, choose the Portrait orientation, and click on the Next button.

   Access displays the final dialog box for the Summary Report Wizard.

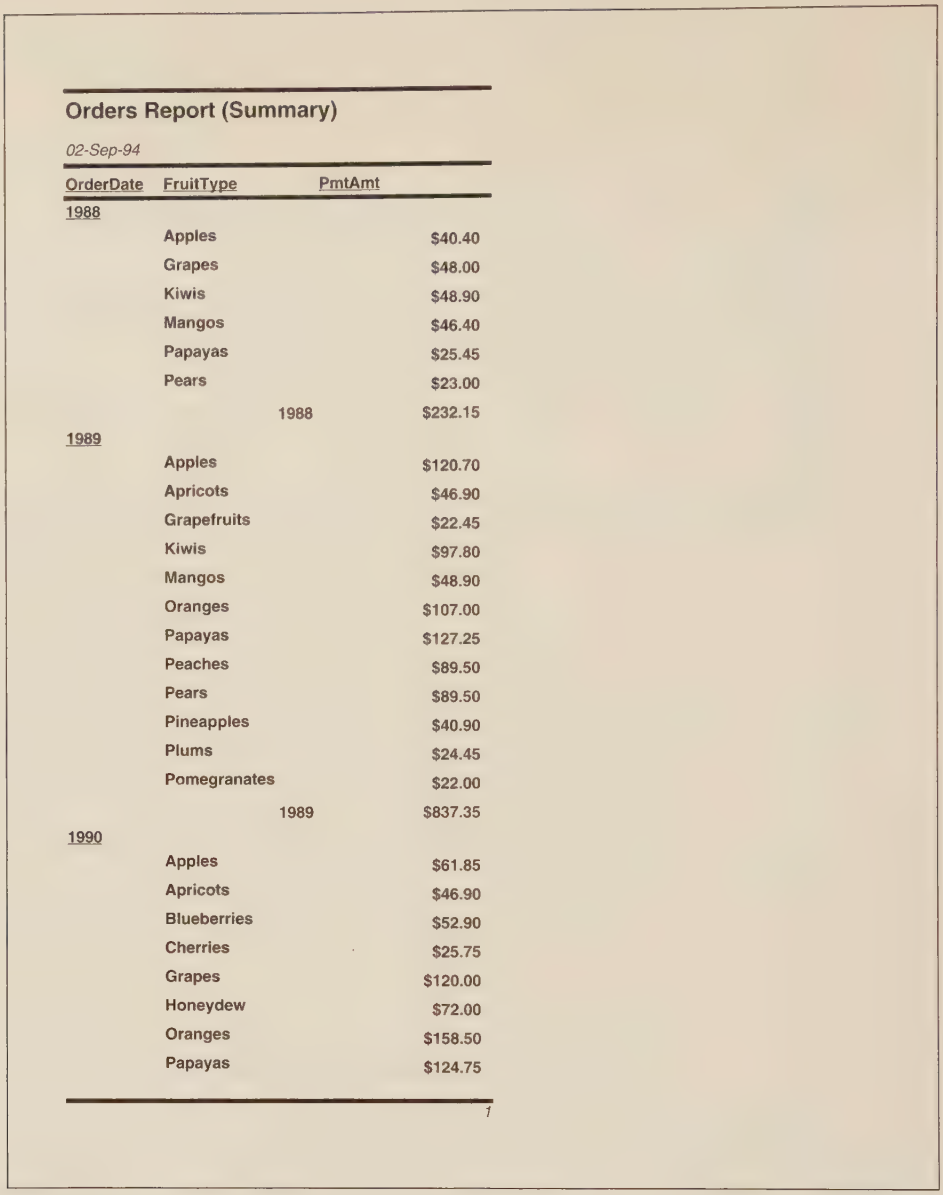
9. Enter the report title **Orders Report**, click on the check box Calculate Percentages Of The Total to deselect it, make sure the See The Report With Data In It option button is selected, and then click on Finish.

   It may take some time, but eventually Access displays the report you just created, a single page of which is displayed in Figure 6-21. Notice how information is presented in a much more concise and digestible manner than in the previous report.

10. Scroll down on the first page of your report until you see the totals for 1988. Notice how much easier it is to read this report than the last one, since information is presented in such a succinct fashion.

11. Click on the Last Page navigation button, and, if necessary, scroll down until you see the grand total.

    Access moves you down to the last page of the report, which includes the grand total for all PmtAmt fields. Notice how much shorter this report is than the report you created in the previous guided activity.



Orders Report (Summary)

02-Sep-94

OrderDate	FruitType		PmtAmt
1988			
	Apples		$40.40
	Grapes		$48.00
	Kiwis		$48.90
	Mangos		$46.40
	Papayas		$25.45
	Pears		$23.00
		1988	$232.15
1989			
	Apples		$120.70
	Apricots		$46.90
	Grapefruits		$22.45
	Kiwis		$97.80
	Mangos		$48.90
	Oranges		$107.00
	Papayas		$127.25
	Peaches		$89.50
	Pears		$89.50
	Pineapples		$40.90
	Plums		$24.45
	Pomegranates		$22.00
		1989	$837.35
1990			
	Apples		$61.85
	Apricots		$46.90
	Blueberries		$52.90
	Cherries		$25.75
	Grapes		$120.00
	Honeydew		$72.00
	Oranges		$158.50
	Papayas		$124.75

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FIGURE 6-21
Here's a printout of the first page of the summary report you just created. As you can see, this report displays data broken down by year and then by fruit type, as in the previous report. This time, however, the report includes none of the specifics about individual orders, instead just presenting total amounts for the various fruits in each year.

12. Double-click on the report's Control-menu box.

    You'll see a dialog box asking if you want to save the changes to the report you just created.

13. Click on Yes. In the Save As dialog box that comes up, enter **OrderSummary** and then click on OK or press Enter.

    Access saves and closes the report.

GENERATING MAILING LABELS

In the course of your work, you may need to mail anything from brochures to invoices to invitations. Fortunately, Access provides a Report Wizard, the Mailing Label Wizard, that makes it extremely easy to generate mailing labels from any name and address information—of customers, employees, business associates, or friends—that you have stored in a table or query. You can even use the Mailing Label Wizard to create other labels, such as file folder labels and name tags. Using the Mailing Label Wizard is much like using the other Report Wizards you've come across in this lesson. As you'll soon find out, however, the Mailing Label Wizard gives you more freedom to determine not just the contents, but also the appearance of your mailing labels.

GENERATE MAILING LABELS

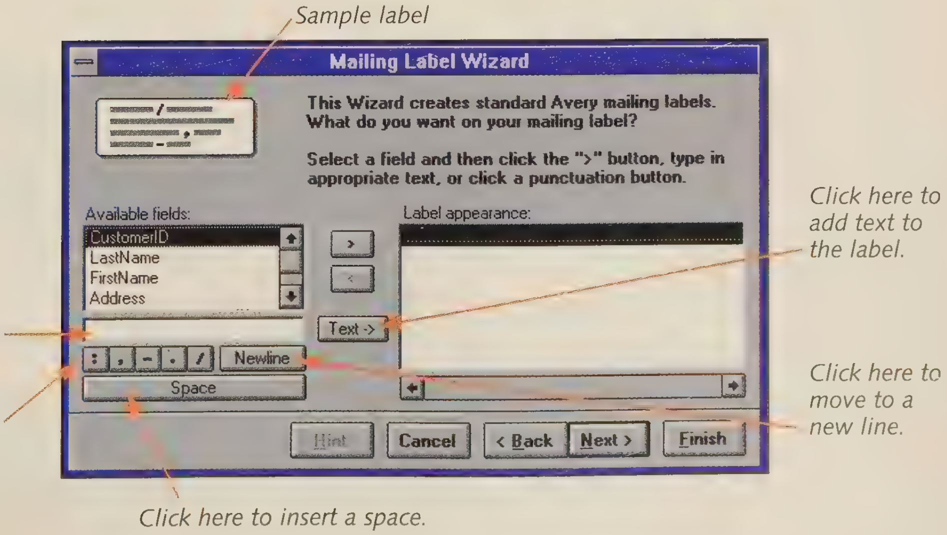
In this guided activity, you will create mailing labels for all customers in Be Fruitful's database. The first several steps of this procedure should seem second nature to you by now.

1. Check that the FRUITFUL Database window is open, click on the Table option button if necessary to display a list of the tables in the database, and make sure that the BFCustomers table is selected.
2. Click on the New Report toolbar button.

   Access displays the New Report dialog box, with the BFCustomers table already selected.
3. Click on the Report Wizards button.

   Access displays the Report Wizards dialog box from which you choose which Report Wizard to use.
4. Double-click on Mailing Label to initiate the Mailing Label Wizard.

   You'll see the initial Mailing Label Wizard dialog box shown in Figure 6-22. Here you not only can choose which fields to include in label, but can also determine the label's appearance.
5. Click on the FirstName field and click on > to add it to the Label Appearance list box.



This Wizard creates standard Avery mailing labels. What do you want on your mailing label?

Select a field and then click the ">" button, type in appropriate text, or click a punctuation button.

Sample label

Click here to add text to the label.

Enter additional text here.

Choose punctuation marks here.

Click here to move to a new line.

Click here to insert a space.

FIGURE 6-22

This Mailing Label Wizard dialog box is where you select the fields for the label and determine the label's appearance.

6. Click on the Space button to add a space after the first name.

   Access inserts a space after the FirstName field, as indicated by a small dot in the Label Appearance list box.

7. Click on the LastName field and click on >.

   Access adds the LastName field to the Label Appearance list box, on the same line as the FirstName field.

8. Click on the Newline button to move on to the next line.

9. Click on the Address field, click on > to place it in the Label Appearance list box, and then click on the Newline button to move down to the next line.

10. Click on the City field and click on >.

11. Click on the comma (,) button above the Space button, click on the Space button, click on the State field, and then click on >.

12. Click on the Space button twice, click on the ZipCode field, and click on >.

13. Click on the Newline button twice.

14. Click in the text box right beneath the list of available fields and enter **Special Offer Enclosed!** Then click on the Text button to move this text into the Label Appearance list box.

    At this point, the Label Appearance list box should resemble the one shown in Figure 6-23.

15. Click on the Next button to move on to the next Mailing Label Wizard dialog box.

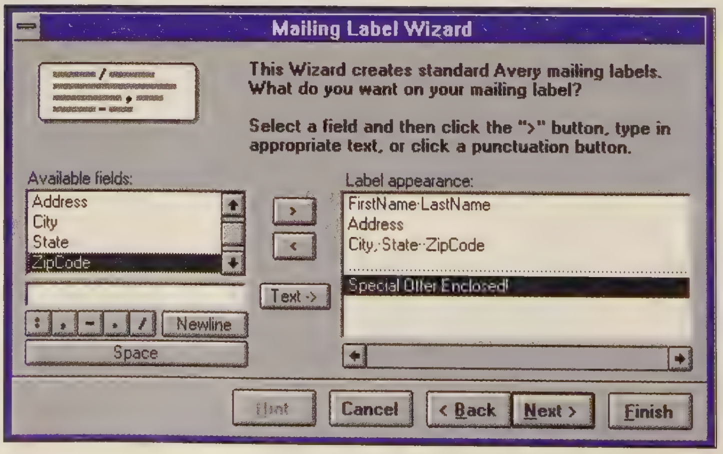
    Access displays the Mailing Label Wizard dialog box shown in Figure 6-24, which lets you choose which fields to sort by.

16. Click on the ZipCode field, click on >, and then click on Next.

    You should see the dialog box pictured in Figure 6-25. Here is where you decide on a label size and type.

FIGURE 6-23

This is what the Label Appearance list box looks like once you've set up your mailing label. Notice that a single dot stands for a space, and a row of dots represents a blank line.



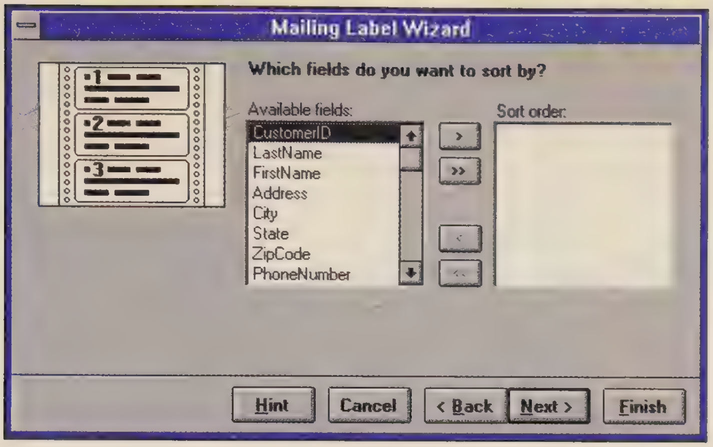
Mailing Label Wizard

This Wizard creates standard Avery mailing labels.
What do you want on your mailing label?

Select a field and then click the ">" button, type in appropriate text, or click a punctuation button.

Available fields:
Address
City
State
ZipCode

Label appearance:
FirstName·LastName
Address
City,·State··ZipCode
....
Special Offer Enclosed!

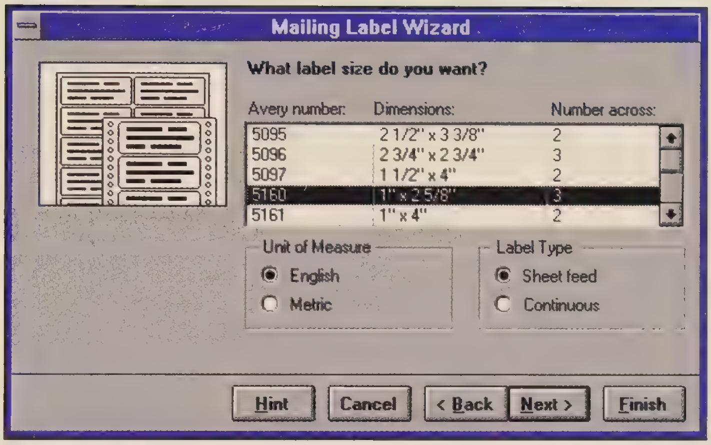


Which fields do you want to sort by?

Available fields:
CustomerID
LastName
FirstName
Address
City
State
ZipCode
PhoneNumber

Sort order:

FIGURE 6-24
In this Mailing Label Wizard dialog box, you can choose which field or fields to sort your labels by.



What label size do you want?

Avery number:	Dimensions:	Number across:
5095	2 1/2" x 3 3/8"	2
5096	2 3/4" x 2 3/4"	3
5097	1 1/2" x 4"	2
5160	1" x 2 5/8"	3
5161	1" x 4"	2

Unit of Measure
● English
○ Metric

Label Type
● Sheet feed
○ Continuous

FIGURE 6-25
This Mailing Label Wizard dialog box lets you pick a mailing label size and type. Notice that the sample box in the upper-left corner displays both continuous labels (the ones with perforations) and sheet-feed labels.

17. Try clicking on the Metric option button; then click on the English option button again. Also try clicking on the Continuous option button.

Depending on which option button you select, Access displays a different list of available labels in the list box at the top of the dialog box.

18. Select the Sheet Feed option button and select the option for Avery number 5198 to print labels that are $1^{2}/3$ inches by $3^{1}/2$ inches apiece and that print two-across on the page.

19. Click on the Next button.

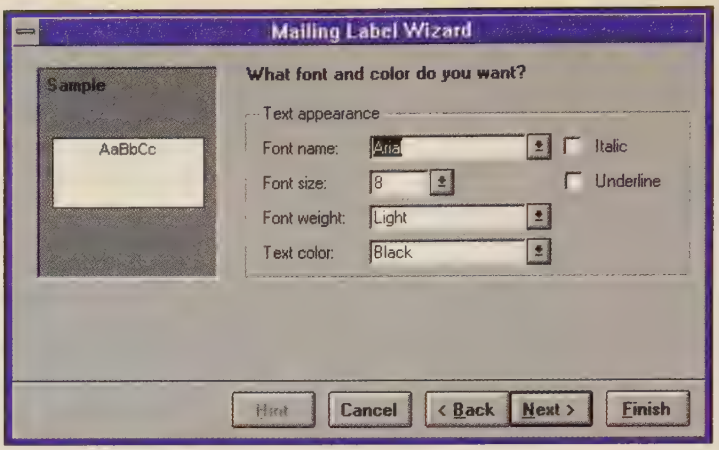
You should see the Mailing Label Wizard dialog box shown in Figure 6-26.

20. Choose the font Times New Roman from the Font Name list box, choose the size 12 from the Font Size list box, and choose the font weight Bold.

Notice that the Sample box in the upper-left corner of the dialog box changes to reflect your new selections. This feature is especially handy if you're not sure what a particular font looks like.

FIGURE 6-26

From this mailing Label Wizard dialog box, you can choose the appearance of the text for your label. Among other things, you can choose a font, a font size, and a color for your text.



What font and color do you want?

Text appearance

Font name: Arial

Font size: 8

Font weight: Light

Text color: Black

☐ Italic

☐ Underline

21. Click on Next to proceed.

    Access displays the final Mailing Label Wizard dialog box. From here, you can choose to view the mailing labels as they should look when printed, or to change the design of the mailing labels.

22. Leave the option button See The Mailing Labels As They Will Look Printed selected and click on the Finish button.

    In a moment, Access displays a preview of the mailing labels, as shown in Figure 6-27.

23. Choose File, Save.

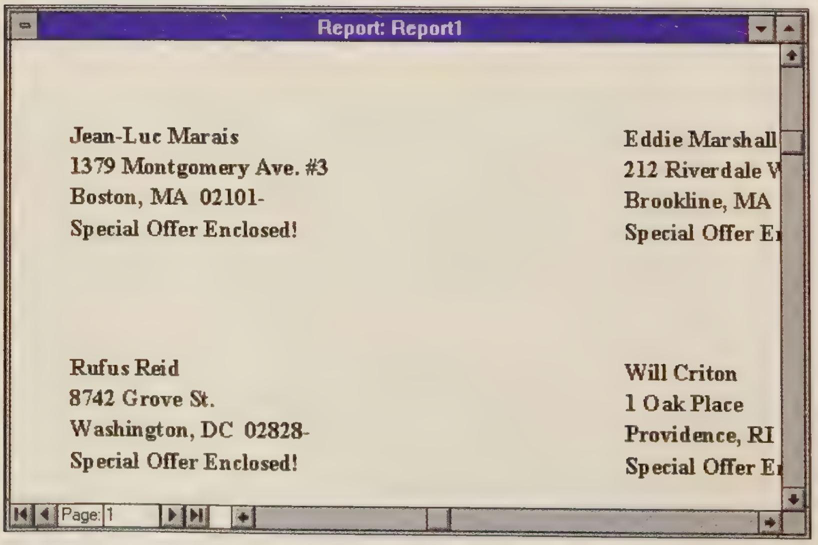
    Access displays the Save As dialog box, which should be familiar by now.

24. Enter the name **TwoAcrossCustLabels** and click on OK or press Enter to save the mailing labels.

25. Choose File, Close or click on the Close Window toolbar button to close the mailing labels and return to the Database window.

FIGURE 6-27

Here is a preview that gives you an idea what your labels will look like when printed.



Jean-Luc Marais
1379 Montgomery Ave. #3
Boston, MA 02101-
Special Offer Enclosed!

Eddie Marshall
212 Riverdale W
Brookline, MA
Special Offer E

Rufus Reid
8742 Grove St.
Washington, DC 02828-
Special Offer Enclosed!

Will Criton
1 Oak Place
Providence, RI
Special Offer E

WARNING

If you use too large a font size or include too many lines of information in your data, you may receive this error message while Access attempts to generate mailing labels: "There isn't enough space in the mailing label to fit all the lines you've created. Some lines won't be placed." If this happens, omit some of the data from the label, reduce the font size, or both, and then try again.

PREVIEWING AND PRINTING REPORTS AND MAILING LABELS

Although you can print forms and even datasheets, you'll usually use reports when you want to generate professional-looking printed output. When you printed forms in Lesson 5, you first previewed them to get a sense of what they would look like when printed. When you work with reports, however, they are displayed in Print Preview mode by default. As you learned, you can use the Zoom feature to get either an overview or a close-up view of the report before you decide to go ahead and print.

PREVIEW AND PRINT A REPORT

Now you'll print the OrderSummary report you created earlier in this lesson.

1. If it's not already selected, click on the Report object button in the FRUITFUL Database window.

   Access displays all the reports in the FRUITFUL database.

2. Click on the OrderSummary report to select it.
3. Click on the Print Preview toolbar button or click on the Preview button in the Database window.

   You should see a preview of your report that is exactly like the view you saw as you created it.

4. Click on the Zoom toolbar button or just click on the report itself.

   Access displays a reduced view of the report, so you can get an overview of what an entire page looks like.

TIP

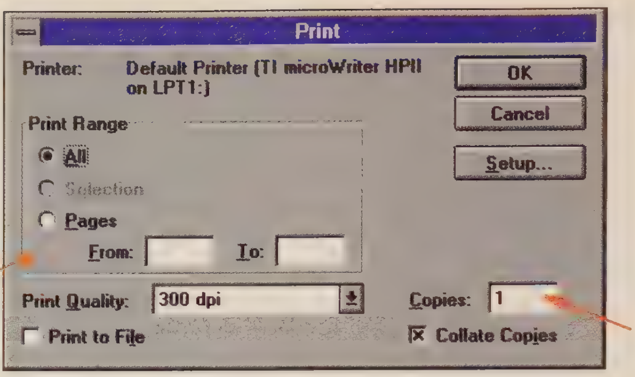
If you want to see more of the report at once without zooming, you can resize or maximize the report window.

5. To print the report, make sure the printer is on and click on the Print toolbar button or choose File, Print.

   You'll see a Print dialog box like the one shown in Figure 6-28. Note that you can print while viewing the report in Print Preview mode, and you can also simply select the report in the Database window and print from there.

FIGURE 6-28

Access displays this Print dialog box when you click on the Print toolbar button or choose File, Print.



Printer: Default Printer (TI microWriter HPII on LPT1:)

Print Range
● All
○ Selection
○ Pages
From: To:

Print Quality: 300 dpi

Copies: 1

☐ Print to File

☒ Collate Copies

Enter range of pages here.

Enter number of copies here.

6. Leave all the default settings selected, and click on the OK button.

   Access should display a message telling you that it's printing your report, and eventually your printer will generate a hard copy of the report.

7. Click on the Close Window toolbar button to close the Print Preview screen and return to the Database window.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Create AutoReport			📝
Move to first page in report			⏮
Move to last page in report			⏭
Move to next page in report			▶
Move to previous page in report			◀
Move to specified page	Double-click on current page number, enter new page number, and press Enter	Press F5, enter new page number, and press Enter	
Zoom display in or out	Click on report		🔍
Save report	Choose File, Save	Ctrl+s	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Initiate Report Wizards			
View report in Print Preview	Choose File, Print Preview	Alt+f, v	
Print report	Choose File, Print	Ctrl+p	
Close report window	Choose File, Close	Alt+f, c	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS

1. Tabular report
2. Zoom
3. Landscape orientation
4. Group/totals report
5. Single-column report
6. Print Preview
7. Portrait orientation
8. Summary report
9. AutoReport
10. Mailing Label Wizard

DEFINITIONS

a. Report in which Access groups all data in designated table or query and displays subtotals for each group and grand totals for entire set of data

b. Single-column report that Access generates for you

c. Setup in which report text is printed vertically across page

d. Wizard that you can use to generate labels of any type

e. Report in which all information for single record is laid out in one row, and totals are inserted at bottom of numeric columns

f. Report in which Access groups your data and displays subtotals for each group, as well as grand totals, but does not display data for individual records

g. To magnify or decrease size of report so you can see less of it in more detail or more of it in less detail

h. Setup in which report text is printed horizontally on page

i. Report in which all fields are laid out in one column

j. View in which you see report much as it will look when printed

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. An AutoForm generates which type of form automatically?
    - a. Single-column
    - b. Double-column
    - c. Tabular
    - d. Summary

2. When you want to see statistical information about your data but don't want to see the details about every single record, what type of report should you use?
    - a. Summary
    - b. Single-column
    - c. Groups/totals
    - d. Tabular

3. When you use a groups/totals report, you can group information by:
    - a. Dates
    - b. Ranges of numbers
    - c. One or several letters
    - d. All of the above

4. You *cannot* use an AutoReport when:
    - a. You want to include only selected fields in your report.
    - b. You want to sort records in an order other than the default.
    - c. You want to display totals.
    - d. All of the above.

5. For which report type can you choose font characteristics?
    - a. Summary reports
    - b. Groups/totals reports
    - c. Tabular reports
    - d. Mailing labels

6. You can base a report on:

a. Tables

b. Queries

c. Tables and queries

d. Tables, queries, and forms

7. For which type of report can you determine not only its contents, but also its appearance?

a. Single-column report

b. Tabular report

c. Mailing labels

d. Summary report

8. When using a Report Wizard, you can sort fields:

a. Only in ascending order

b. Only in descending order

c. In either ascending or descending order

d. By full or by partial values

9. What's the only kind of report for which you can display the report title on each page of the report?

a. Summary

b. AutoReport

c. Tabular

d. Single-column

10. In which two types of reports can you have Access display percentages for you?

a. Summary and tabular

b. Groups/totals and tabular

c. Summary and single-column

d. Summary and groups/totals

SHORT-ANSWER QUESTIONS

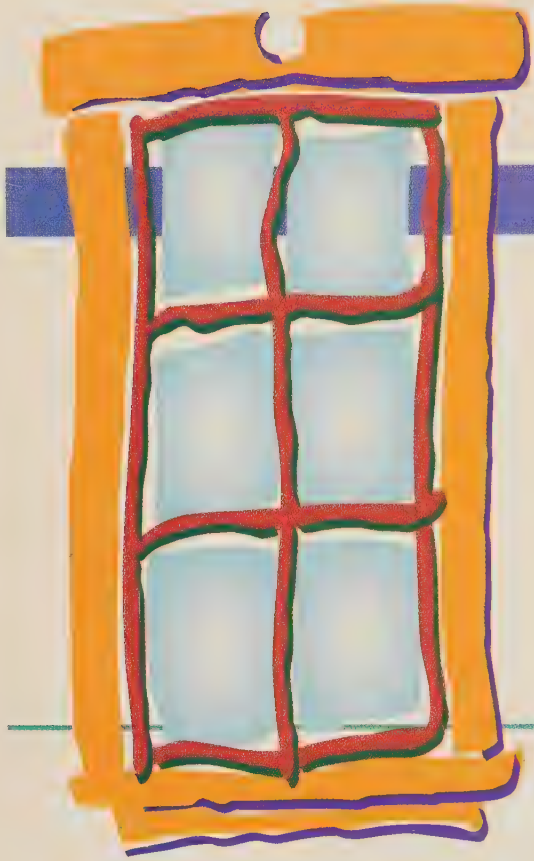
Write a brief answer to each of the following questions:

1. List at least two shortcomings of an AutoReport.
2. Which report type should you use when you want to display each record on a separate page? If you don't choose to display each record on a separate page, will Access split records across pages?
3. Mention at least three ways of grouping date fields in groups/totals or summary reports.
4. Describe the difference between groups/totals and summary reports.
5. Name two limitations on sorting when using a Report Wizard.

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Use the Tabular Report Wizard to create a tabular report based on the Post93Orders query. Sort by the LastName and FirstName fields. Choose whichever report style and page orientation you like. Give the report the title **Orders After 1993**, and save it as **TabularOrders**. Note that it's just as easy to create a report based on a multitable query as it is to base one on a table or a single-table query.
2. Create a groups/totals report based on the BFCustomers table. Include the LastName, FirstName, Address, City, State, and ZipCode fields in the report. Group your data by the first letter of the LastName field, and also sort the data by first name. Choose any style and page orientation for the report. Give the report the title **Names and Addresses Grouped by First Letter**, and save it as **GroupedNamesAddresses**.
3. Create a summary report based on the BFOrders table. Group the orders by the FruitType field—choose the Normal option to sort based on the entire FruitType field. Include the Quantity, Price, ShippingAmt, and PmtAmt fields in the report. Choose the desired style and choose the Portrait orientation for the report. Title the report **Fruit Types**, and name the report **FruitSummary**.
4. Build a tabular report based on the UnpaidOrdersNameAddress query. Include all fields from the query in the report, sort the report by last name and then by first name, choose the Presentation style, title the report **Unpaid Orders**, and save it as **UnpaidOrders**. Note that it's just as easy to build a report based upon a multitable query as it is to create a report based on a table or a single-table query.



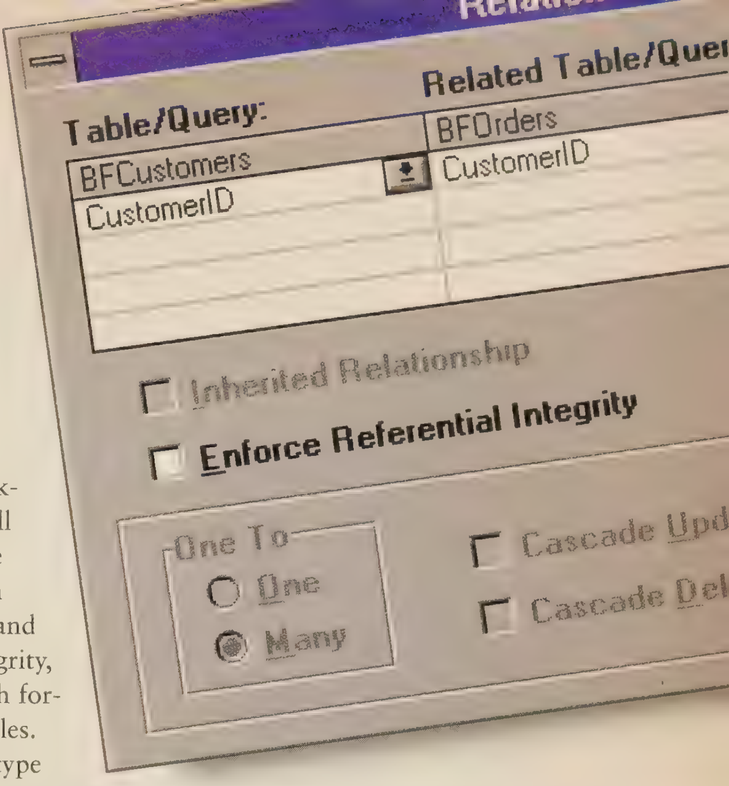
LESSON 7

ADVANCED TOPICS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Modify forms in Design view.*
- *Modify reports in Design view.*
- *Identify the different types of relationships between tables.*
- *Understand the concept of referential integrity.*
- *Establish formal relationships between tables.*
- *Create main/subforms.*



Table/Query: BFCustomers

CustomerID

Related Table/Quer BFOrders

CustomerID

☐ Inherited Relationship

☐ Enforce Referential Integrity

One To

○ One

● Many

☐ Cascade Upd

☐ Cascade Del

This chapter introduces an assortment of more advanced techniques. First you learn to work in Design view, which enables you to modify existing forms and reports. You spend the remainder of the chapter working with multiple tables. You'll find out how to determine the types of relationships between tables, you'll learn to understand the concept of referential integrity, and you'll see how to establish formal relationships between tables. Lastly, you'll create a special type of form that permits you to display the data from two tables at once.

MODIFYING FORMS AND REPORTS IN DESIGN VIEW

In Lessons 5 and 6, you spent a considerable amount of time creating forms and reports with the help of the Access Form and Report Wizards. These tools make it remarkably easy to construct forms and reports that are quite polished. Most often, however, the results could do with a little fine-tuning—columns might not line up just right, text-box sizes may need adjusting, fonts and font sizes may leave room for improvement. These are the kinds of things you'll learn how to do here.

When you want to modify reports and forms, you need to work in Design view. The Design views for forms and reports are akin to the Design views for tables and queries that you've already encountered. This is where you see and modify the structure and attributes of the object in question, rather than viewing or editing your actual data. But these new Design views give you a great deal of control over not just the structure, but also the appearance of your forms and reports. Among other things, they allow you to move and change the size of objects such as text boxes and column headings; edit text and alter text attributes such as fonts, font sizes, and text alignment; and alter the colors of text, borders, and backgrounds. There are many more modifications you can make—including adding all kinds of specialized objects such as check boxes and list boxes to your forms and reports. Although there's only room to cover a few of the basics here, these simple skills should help you put the finishing touches on your forms and reports.

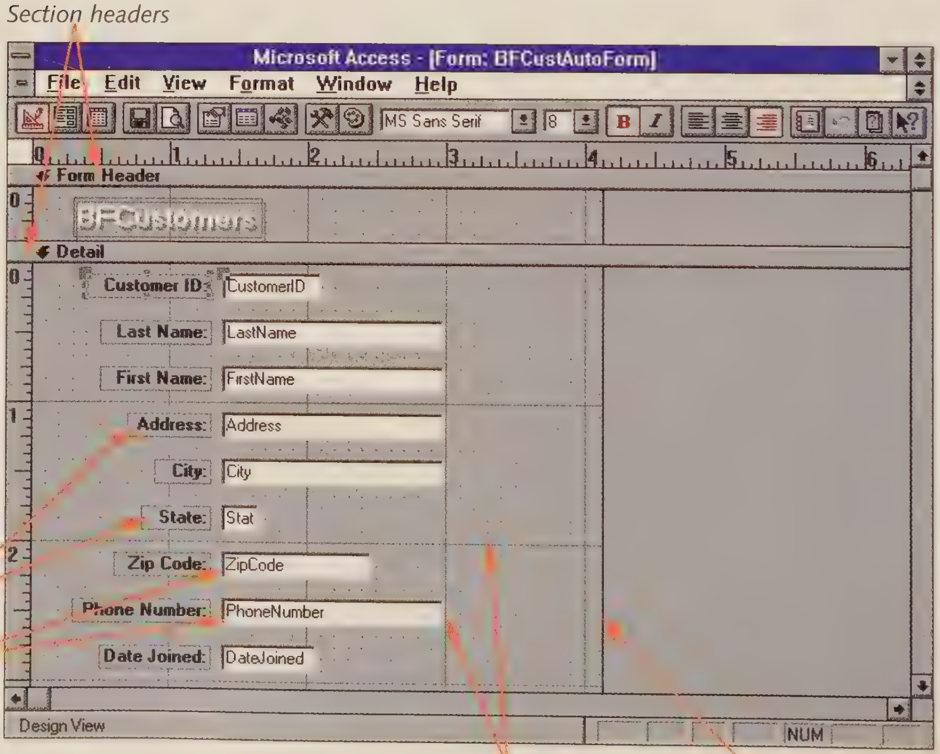
NOTE *You can also create forms and reports from scratch in Design view. For the most part, however, it's easiest to create a basic design with a Wizard, and then make any necessary modifications in Design view.*

GETTING YOUR BEARINGS IN DESIGN VIEW

To get into Design view, you choose either the Report or the Form object button in the Database window, select the desired form or report, and then click on the Design button. Figure 7-1 shows BFCustAutoForm in Design view (in the figure, the Form window has been maximized). When you first get into Design view, Access may display two special toolbars—the Toolbox and the Palette. For the moment, just remove these from view by clicking on the Palette and Toolbox toolbar buttons. (You'll use the Palette a little bit later in this lesson to change the colors in a form; the tools in the Toolbox are beyond the scope of this tutorial.)

You may have noticed the Form Header and Detail bars in the figure. These identify separate areas of the form. Reports and forms are generally divided into several **sections**, and you should have a basic knowledge of what these sections are for when you're modifying the elements that they contain.

- **Report and form headers** include information that appears just once at the top of the report or form. In the figure, the form header just includes the form title, BFCustomers.
- **Report and form footers** include information that appears just once at the bottom of the report or form. As an example, summary reports include the grand totals in the report footer.
- **Page headers** include information that appears at the top of each printed page. A common page header would be the column headings in a tabular report.



Section headers

Label controls

Text-box controls

Grid

Form boundary

FIGURE 7-1

Here is the BFCustAutoForm you created earlier, maximized and displayed in Design view. Primarily what you see here are a number of "controls" for field labels and text boxes. You can select these controls and then manipulate them by using the mouse or by choosing many commands or toolbar buttons.

- **Page footers** include information that appears at the bottom of each printed page. A typical page footer would be a page number.
- **Group headers and footers** specify information that is to appear at the beginning or end of each group, respectively. You'll find group headers and footers in groups/totals and summary reports; they are labeled with the appropriate field name. As an example, in the OrderSummary report, the year is the group header, and the year plus the sum of all PmtAmt fields for that year is the group footer.
- The **Detail section** includes all the information that is listed one time for every record in the table. In BFCustAutoForm, the Detail section includes text boxes and labels for all the fields in the BFCustomers table.

Within each section, the various components of the form or report—such as labels, text boxes for displaying data, and form or report titles—are represented as objects that are also known as controls. **Controls** are simply the different form or report elements that you can manipulate individually. As you'll soon find out, modifying a form or report most often involves selecting one or more controls, and then either manipulating them in some way with the mouse or selecting a menu command or toolbar button that affects the selected controls.

Selecting controls is simple:

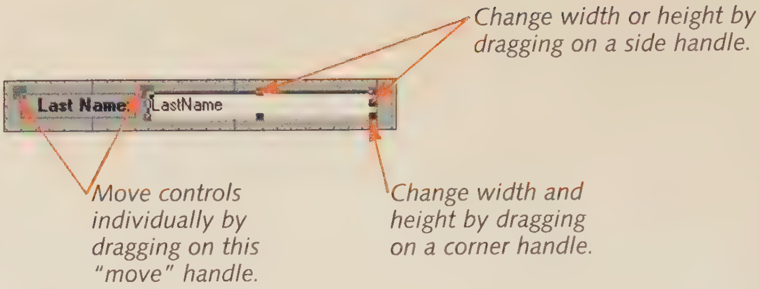
- To select a single control, just click on it. This deselects any other selected controls.
- To select additional controls, hold down Shift while clicking on them. This allows you to select the control you click on without deselecting any previously selected controls.
- To select all controls, choose Edit, Select All or press Ctrl+a.
- To deselect all selected controls, click away from any objects.
- To deselect a single control, hold down Shift while clicking on it.

When you select a control, it acquires a set of **handles**—square boxes that indicate the control is selected and enable you to change its size and location. Figure 7-2 shows a selected text-box control. You can move and resize this control by dragging on the appropriate handle. Drag on any of the side handles to change the control's height or width; the mouse pointer will change into a horizontal or vertical double-headed arrow. Drag on the corner handles to change the height and width at the same time; the mouse pointer will change into a diagonal double-headed arrow. (The large handle in the upper-left corner of the control is an exception that you'll learn about next.)

TIP *You can also select multiple controls and then move or resize them simultaneously by dragging on just one of them.*

To move an individual control, you can drag on the **move handle**—the somewhat larger handle in the upper-left corner. (When you do this, the mouse pointer takes on the shape of a hand with an extended index figure.)

FIGURE 7-2
When you select a control, Access encloses it within a set of square handles, as shown here. In this case, the selected text box has an associated label, which also acquires a single "move" handle in the upper-left corner.


Change width or height by dragging on a side handle.
Last Name:
LastName
Move controls individually by dragging on this "move" handle.
Change width and height by dragging on a corner handle.

However, if there are two linked controls—such as the label and text-box pairs in Figure 7-2—you probably want to move them together. Notice that the selected LastName text box in the figure has an associated label, which also acquires a move handle when you select the text box. When you drag on the move handle for either control, you move that control without moving the other control in the pair. If you instead want to move the controls together, place the mouse pointer over the border of the selected control (the one with a full set of handles), and, when the pointer takes on the shape of an open hand, drag both controls to the desired spot.

MODIFYING FORMS IN DESIGN VIEW

When you create forms with the Form Wizards, you have a decent amount of control over the contents of the form, but are limited to a few very specific layouts. Most often, your forms will feature all fields lined up in a single column, or fields laid out in a series of rows and columns. The best thing about Design view is that it permits you to come up with alternatives to these standard layouts. You can move fields around at will, arranging them in a way that uses space more economically and is more pleasing to the eye.

Changing the arrangement of fields is just one of many possibilities. You also can increase or decrease the size of text boxes so that they fit their data more suitably. In addition, you can make changes to your text—editing it; choosing new fonts; picking different font sizes; and aligning the text on the right, the left, or in the center. Another exciting option is to alter the colors of text, borders, and backgrounds.

In the next guided activity, you'll experiment with just a few of the many alternatives. Keep in mind that this tutorial can present only a small number of basics. For more information on customizing forms, you should consult the online Help system, your Access documentation, or a more advanced book on Access.

REVISE BFCUSTAUTOFORM

Although many, if not most, of the forms you create with Form Wizards could use some fine-tuning, AutoForms are more likely than most to need fixing because you have so little input into the final results. In this guided activity, you'll make improvements to BFCustAutoForm, which you created in Lesson 5.

1. Get into the FRUITFUL Database window and click on the Form object button.
2. Click on BFCustAutoForm to select it. Remember, this is the AutoForm you created from the BFCustomers table in Lesson 5.
3. Click on the Design button in the Database window.

   Access displays the BFCustAutoForm in Design view.

4. If the Toolbox and Palette appear on the screen, close them by double-clicking on their Control-menu boxes or clicking on the Toolbox and Palette toolbar buttons.
5. Click on the form's Maximize button to have the form fill the entire screen.

   The form window will occupy the entire screen, as shown in Figure 7-3.

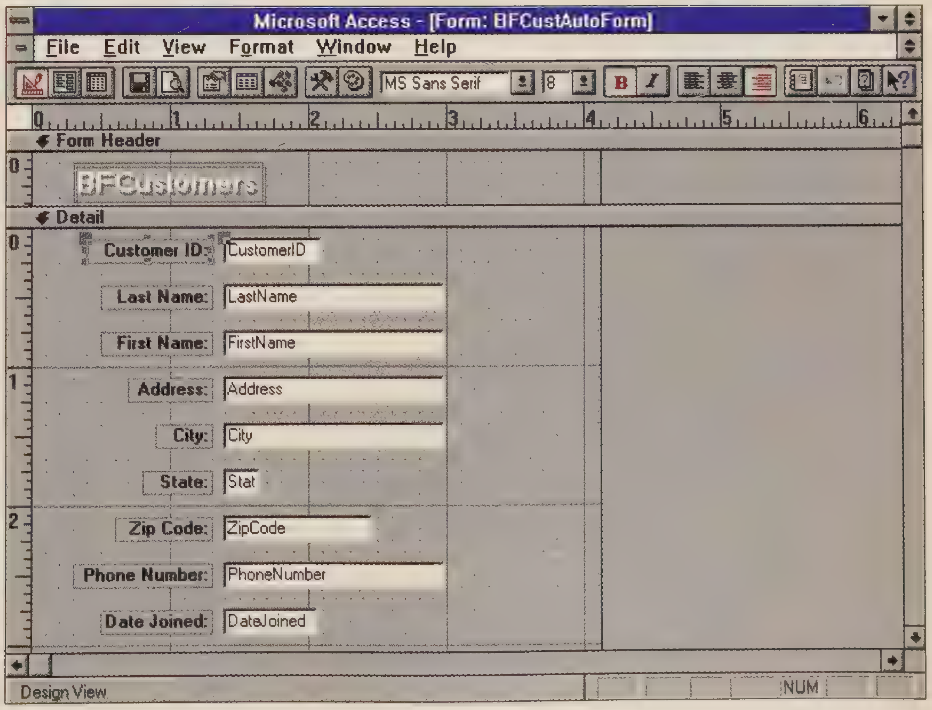
6. Check that the Grid option in the View menu and the Snap To Grid option in the Format menu are on (they should have check marks to the left of their names). These options will help you align objects on the screen.

TIP

If you make a change that you decide to reverse, you can choose Edit, Undo. If you've made a number of changes that you decide to discard, double-click on Control-menu box and respond with No when asked if you want to save your changes.

FIGURE 7-3

Here is a maximized version of BFCustAutoForm in Design view.



7. Place the mouse pointer over the form boundary and drag to the right, releasing the mouse button when the boundary reaches the 5-inch mark on the horizontal ruler. (If by some chance the rulers aren't displayed, choose View, Ruler to bring them into view.)

8. Click on the CustomerID text box to the right of the CustomerID label.

   Access displays handles around the text box, and also displays a single move handle on the accompanying label.

9. Place the mouse pointer over the handle on the right edge of the control—the middle handle, *not* one of the corner handles.

   The mouse pointer changes into a double-headed arrow with arrows pointing to the right and the left.

10. Press and hold down the mouse button, drag to the left until the text box is about half of its original size, and then release the mouse button.

11. Click on the LastName text box, and, using a similar technique, reduce its size by about a third.

12. Click on the FirstName text box and reduce its size by about a third—again, by dragging on the handle on the right side. Try to make it about the same size as the LastName text box.

13. With the FirstName text box still selected, place the mouse pointer over the border of the text box, avoiding the selection handles.

    The mouse pointer should take on the shape of an open hand.

14. Drag the FirstName text box up and to the right, noting that the FirstName label is coming along for the ride. Release the controls when they are to the right of and on the same line as the LastName controls.

NOTE *When you want to move two associated controls, you can select and drag either one of them using this method. As long as you use the control's border rather than the move handle, both controls will move together.*

15. Now drag the Address controls (both the label and text box) up underneath the LastName controls, keeping the Address and LastName text boxes lined up on the left side.

16. Reduce the size of the City text box by about a third, and then drag the City controls up, lining up the left of the City text box with the left of the Address text box.

TIP *If you want to align controls exactly rather than by eye, you can use the alignment options. Select the controls you want to align, choose Format, Align, and then choose one of the options in the submenu that appears.*

17. Drag the State controls up and to the right, placing them just to the right of the City controls.

18. Narrow the ZipCode text box by about a third. Then drag the ZipCode controls up and to the right, placing them directly to the right of the State field.

19. Drag up the PhoneNumber controls, releasing them right underneath the City field. Then narrow the PhoneNumber text box so that it's the same size as the City text box.

20. Move up the DateJoined controls so that they're directly underneath the PhoneNumber field. Also move up the ExtraCatalogs controls so that they're directly to the right of the DateJoined field. (You'll need to scroll down to bring the ExtraCatalogs field into view.)

21. Move up the Notes controls, placing them immediately underneath the DateJoined field.

22. Place the mouse pointer over the top edge of the Form Footer section and drag it up until it's somewhere around a half inch below the Notes field. Although there's nothing in the form footer at the moment, you should move the section to a suitable position in case you want to add a footer later.

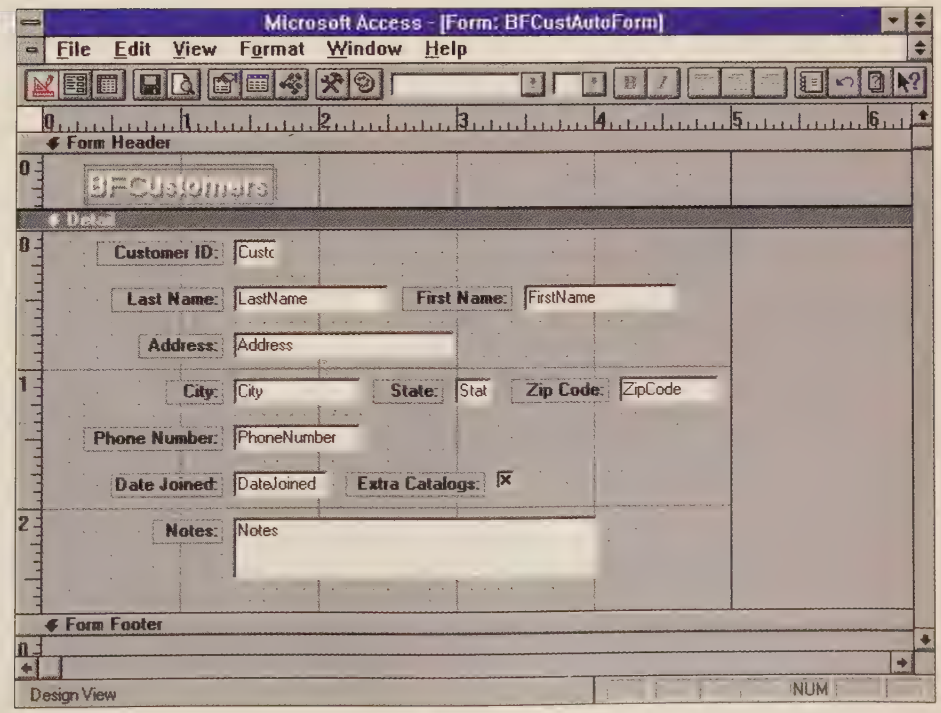
23. Scroll back up so you can see your entire revised form design, which should resemble the one shown in Figure 7-4.

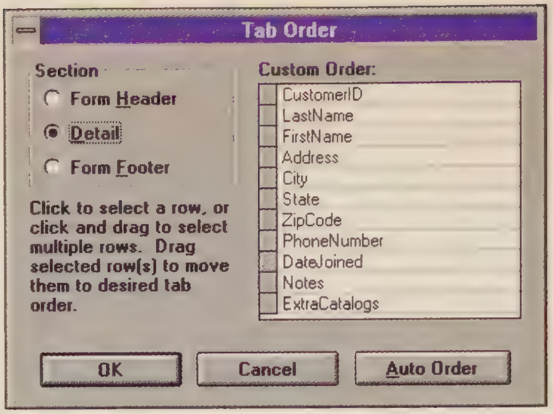
24. Choose Edit, Tab Order. The **tab order** is the order in which Access moves from field to field when you press Tab. Unless you modify the tab order, Access moves from field to field in the order that fields have in the underlying table, instead of the order that they have in the revised form.

   Access displays the Tab Order dialog box, as shown in Figure 7-5. Notice that the Notes field is listed before the ExtraCatalogs field in the Custom Order list, even though the Notes field now falls after the ExtraCatalogs field on the form.

FIGURE 7-4

Once you finish relocating the fields on your form, the form design should look more or less like this. Notice that all the fields now fit easily on a single screen. Also note that all text boxes on the left are lined up, giving the form a coherent and easy-to-read appearance.





Click to select a row, or click and drag to select multiple rows. Drag selected row(s) to move them to desired tab order.

- CustomerID
- LastName
- FirstName
- Address
- City
- State
- ZipCode
- PhoneNumber
- DateJoined
- Notes
- ExtraCatalogs

FIGURE 7-5

When you choose Edit, Tab Order, Access displays the Tab Order dialog box you can see here. Through this dialog box, you can change the order in which Access moves from field to field when you press Tab; you should do this if you rearrange fields when altering the form's design.

25. Click on the selector to the left of the ExtraCatalogs field in the Custom Order list, drag this field up to the position currently occupied by the Notes field, and then release the mouse button.

Access switches the positions of the Notes and ExtraCatalogs fields in the Custom Order list. This means that pressing Tab from the DateJoined field will now move you to the ExtraCatalogs field to its right on the form, instead of to the Notes field.

26. Click on OK to put these changes into effect and close the Tab Order dialog box.

27. Choose View, Palette or click on the Palette toolbar button to bring the Palette into view. If necessary, drag it by its Title bar to move it out of the way.

28. Click on the BFCustomers title in the Form Header section and then click on the royal blue color displayed under Fore Color in the Palette.

"BFCustomers" should turn the selected shade of blue.

29. Next click on the Detail bar—this selects the Detail section without selecting any specific controls—and click on the same shade of royal blue under Back Color in the Palette.

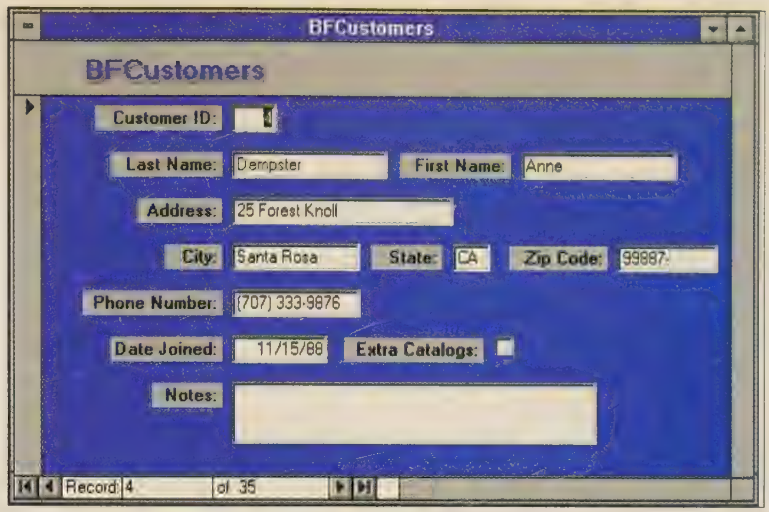
The background color of the form will turn royal blue.

30. Click on the Form View toolbar button, restore the form to its original size by clicking on the Restore button on the right end of the Menu bar, and resize the form by dragging on its borders so you can see all the fields at once.

At this point, your form will look something like the one shown in Figure 7-6. Notice how all fields fit comfortably on a single screen, and the text boxes stand out nicely against the blue background.

31. Save the revised form by choosing File, Save Form As, entering the name **BFCustAutoFormNew**, and clicking on OK.

32. Double-click on the form's Control-menu box to close the form and return to the Database window.



BFCustomers

Customer ID: 4

Last Name: Dempster

First Name: Anne

Address: 25 Forest Knoll

City: Santa Rosa

State: CA

Zip Code: 99887-

Phone Number: (707) 333-9876

Date Joined: 11/15/88

Extra Catalogs: ☐

Notes:

Record: 4 of 35

FIGURE 7-6

Here is what your revised form will look like in Form view. The form window has been resized so that all fields are displayed at once. Also notice that the text boxes are a more suitable size for the data they contain.

MODIFYING REPORTS IN DESIGN VIEW

Modifying reports is not all that different from modifying forms. You work with controls, either dragging them to move or resize them, or selecting them and then choosing toolbar buttons or menu options to modify them in some way. There are a few differences, however. For one, you're less likely to modify the colors in reports, unless you have some way of printing in color. In addition, groups/totals or summary reports will have group headers and footers; these are labeled with the name of the "group by" field. Otherwise, you should feel pretty much at home modifying a report in Design view.

FINE-TUNE THE 1993ORDERSTABULAR REPORT

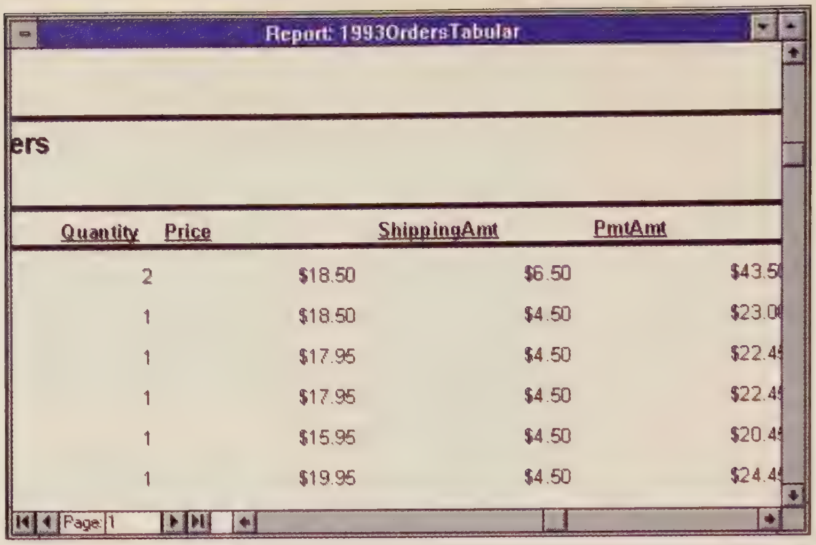
Here you will make some minor adjustments to the 1993OrdersTabular report, fixing the alignment of columns and making a few changes to the text.

1. Click on the Report object button in the FRUITFUL Database window.
2. Select the 1993OrdersTabular report and click on the Preview button. Then scroll to the right, noticing that many of the column headings don't line up all that well with the data below, as shown in Figure 7-7.
3. Click on the Close Window toolbar button.

   Access returns you to the Database window.

4. Select the 1993OrdersTabular report and click on the Design button in the Database window.

   Access displays the report in Design view, as shown in Figure 7-8. (You may need to close the Palette or drag it to the side to get a clear view of the report design.) As you'd expect, the report design is divided into several different sections, most of which contain a number of different controls.



Report: 1993OrdersTabular

ers

Quantity	Price	ShippingAmt	PmtAmt
2	$18.50	$6.50	$43.5
1	$18.50	$4.50	$23.0
1	$17.95	$4.50	$22.4
1	$17.95	$4.50	$22.4
1	$15.95	$4.50	$20.4
1	$19.95	$4.50	$24.4

FIGURE 7-7

As you can see here, the column headings in the 1993OrdersTabular report don't line up particularly well with the data. In a moment, you'll learn how to remedy this problem.

5. Click on the report title in the report header to select it, and click on the downward-pointing arrow in the Font Name list box in the toolbar. Scroll until you see Times New Roman, and click on it to select it.

   Access changes the font used for the report title.

6. With the report title still selected, click on the downward-pointing arrow in the Font Size list box in the toolbar, and click on 16 to choose 16 points as the font size.

   Access changes the size of the font used for the report title.

B

7. Click on the text "=Now()" (this represents the date) and click on the Bold toolbar button to make the date both bold and italic (it was italic to begin with).

   Note that both the Bold and Italic buttons now look as though they have been pressed in. When it doesn't look pressed in, you can click on the Italic button to italicize the selected text. Both of these button are ***toggles:*** *You can click on them once to turn them on and again to turn them off.*

8. Now you need to narrow some of the columns in the Detail section. Click on the OrderDate control to select it. (Make sure to select the control in the Detail section rather than in the Page Header section.)

9. Drag on the right handle to narrow the control, making it slightly smaller than the OrderDate column heading in the Page Header section.

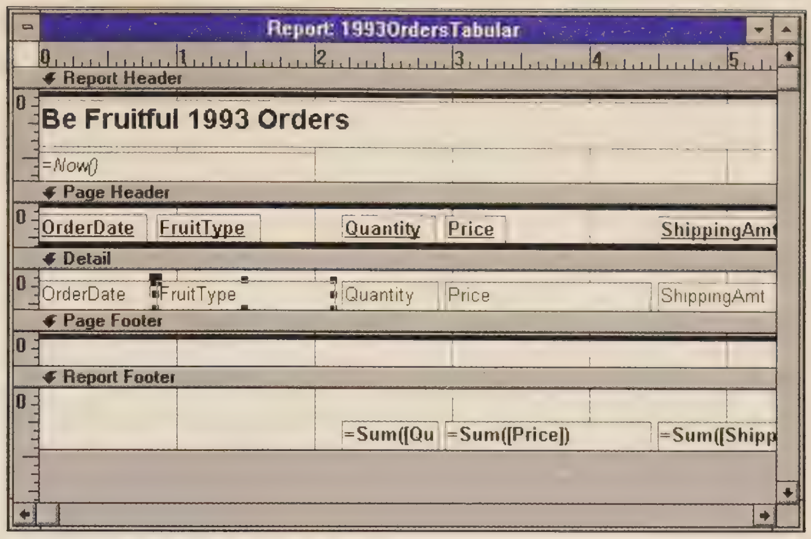
10. Also narrow the FruitType and Quantity controls in the Detail section, making them slightly smaller than the associated column headings in the Page Header section.

11. Narrow the Price control in the Detail section, making it about the same size as the Price column heading in the Page Header section.

12. Narrow the ShippingAmt and PmtAmt controls, making them both slightly smaller than the column headings in the Page Header section.

FIGURE 7-8

Here is the 1993OrdersTabular report in Design view. Note that the report header includes the report title, the page header includes the column headings, and the Detail section includes all the fields that were included in the report.



13. Click on the Print Preview toolbar button.

Access switches you to Print Preview, as you can see, the column heading and the ensuing data line up much more appropriately now. However, the columns are not spaced all that evenly across the page.

14. Click on the Close Window toolbar button to return to Design view.

TIP

If you originally opened your report in Design view, the Close Window button returns you to Design view, but if you originally opened the report in Print Preview, the Close Window button returns you to that view of your report.

15. Select all the column headings in the Page Header section by holding down Shift while clicking on them; make sure to scroll to the right and select the PmtAmt field.

16. Choose Format, Horizontal Spacing, Make Equal.

Access spaces the controls evenly across the Page Header section.

17. Click in a blank area of the screen to deselect the controls in the Page Header section, select all the controls in the Detail section, and again choose Format, Horizontal Spacing, Make Equal.

Access spaces the controls evenly across the Detail section.

18. Again, preview the report by clicking on the Print Preview toolbar button.

Although this layout is definitely an improvement, a few of the columns are not lined up all that precisely—this is because the controls are not all of the same size.

19. When you're done previewing the report, click on the Close Window toolbar button to return to Design view.

20. Click on both FruitType controls—in Page Header and in Detail section—making sure that only those two controls are selected. Then choose Format, Align, Left.

Access aligns the left edges of the two selected controls. It's a good policy to left-align Text fields such as these.

WARNING

Don't confuse the Align options on the Format menu with the text-alignment options on the toolbar, which align text within controls rather than aligning the controls themselves.

21. Click on the two Price controls and choose Format, Align, Right.

Access aligns the right edges of the two selected controls. It's a wise policy to right-align Number fields.

22. Do the same for the ShippingAmt and PmtAmt fields, right-aligning the two controls. Make sure you align the sets of controls one by one; if you select several sets of controls, they'll all be aligned as a group and will wind up overlapping.

23. Switch to Print Preview to check that design is just right.

The column headings and the data below should be lined up correctly; Figure 7-9 shows a printout of the revised 1993 orders report.

24. Choose File, Save As, supply the new report name **1993OrdersTabularNew**, and click on the OK button to save the revised report under a new name.

25. Double-click on the report window's Control-menu box to return to the Database window.

WORKING WITH MULTIPLE TABLES

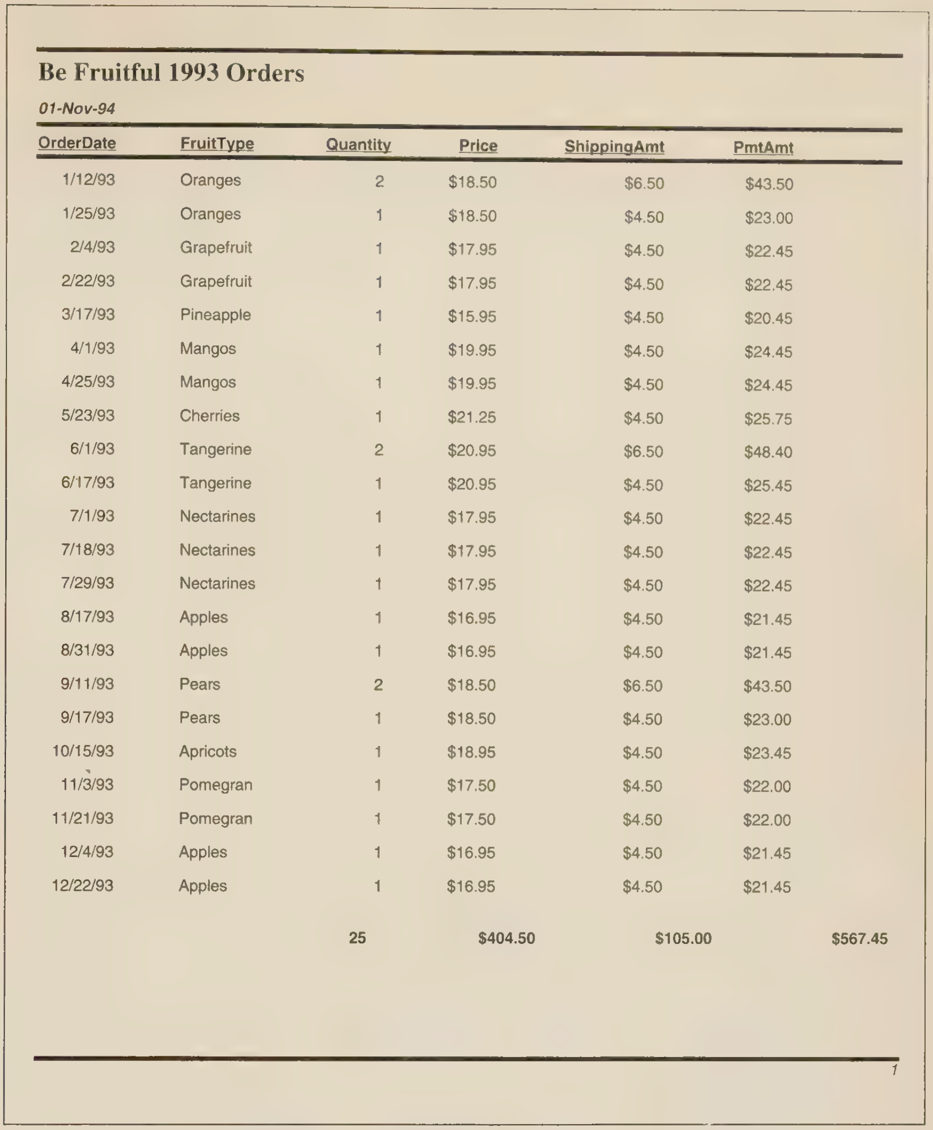
You've already learned a few basics about working with multiple tables. Among other things, you found out how to create queries that draw data from more than one table, and you discovered how easy it is to create forms and reports based on those queries. Since working with multiple tables is a critical skill for managing databases well, there's a bit more that you need to learn.

In Lesson 4, you created some multitable queries by establishing joins between the tables; these joins enable Access to recognize matching records in the two tables. As you may remember, in some cases, Access can guess correctly which field is the join field; in other cases, you may need to establish the join manually by dragging from one common field to another.

At times, instead of creating joins "on the fly," you'll want to establish permanent relationships between tables. This way, Access will always know for sure which records match up and will also understand precisely what type of relationship the two tables have. Defining formal relationships between tables involves only a few simple steps, as you'll soon learn. Before you go forward with the procedure, however, you need to know a bit more about the various types of relationships that can exist between tables.

FIGURE 7-9

Here is a printout of the revised 1993 orders report. Notice how much more professional this report looks now that the columns are lined up as they should be.



Be Fruitful 1993 Orders

01-Nov-94

OrderDate	FruitType	Quantity	Price	ShippingAmt	PmtAmt
1/12/93	Oranges	2	$18.50	$6.50	$43.50
1/25/93	Oranges	1	$18.50	$4.50	$23.00
2/4/93	Grapefruit	1	$17.95	$4.50	$22.45
2/22/93	Grapefruit	1	$17.95	$4.50	$22.45
3/17/93	Pineapple	1	$15.95	$4.50	$20.45
4/1/93	Mangos	1	$19.95	$4.50	$24.45
4/25/93	Mangos	1	$19.95	$4.50	$24.45
5/23/93	Cherries	1	$21.25	$4.50	$25.75
6/1/93	Tangerine	2	$20.95	$6.50	$48.40
6/17/93	Tangerine	1	$20.95	$4.50	$25.45
7/1/93	Nectarines	1	$17.95	$4.50	$22.45
7/18/93	Nectarines	1	$17.95	$4.50	$22.45
7/29/93	Nectarines	1	$17.95	$4.50	$22.45
8/17/93	Apples	1	$16.95	$4.50	$21.45
8/31/93	Apples	1	$16.95	$4.50	$21.45
9/11/93	Pears	2	$18.50	$6.50	$43.50
9/17/93	Pears	1	$18.50	$4.50	$23.00
10/15/93	Apricots	1	$18.95	$4.50	$23.45
11/3/93	Pomegran	1	$17.50	$4.50	$22.00
11/21/93	Pomegran	1	$17.50	$4.50	$22.00
12/4/93	Apples	1	$16.95	$4.50	$21.45
12/22/93	Apples	1	$16.95	$4.50	$21.45
		25	**$404.50**	**$105.00**	**$567.45**

1

IDENTIFYING RELATIONSHIPS BETWEEN TABLES

Any two tables can have one of three possible relationships: one-to-one, one-to-many, and many-to-many. Try not to be put off by what may seem like some formidable terminology; the concepts are actually quite easy to grasp, and we're covering only a few of the basics here. When you determine what relationship two tables have, you typically take the perspective of one of the tables, which is sometimes called the **primary table**. The other table can be referred to as the **related table**.

If two tables have a **one-to-one relationship**, every record in the primary table can have either no matching records or only a single matching record in the related table. This situation might arise if you wanted to keep track of mailing addresses as well as regular addresses. In this scenario, you could include the mailing addresses in a separate table. Each person would have at most one mailing address in this related table, and many people would have none, since their mailing addresses would be the same as their regular addresses.

Two tables have a **one-to-many relationship** when each record in the primary table can have no records, one record, or many matching records in the related table, but every record in the related table has exactly one associated record in the primary table—no more and no less. The BFCustomers and BFOrders tables have a one-to-many relationship in which BFCustomers is the primary table. Every customer can naturally place multiple orders, but each order has to match up with only a single customer. When two tables have a one-to-many relationship, the primary table is sometimes called the **parent table**, and the related table can be called the **child table**. The common field for linking the two tables has to be unique in the parent table; most often, it's the primary key. This guarantees that Access can find only one parent (or customer) record to go with any child (or order) record. In the child table, this common field cannot be unique. If it were, in our case, you'd have no way of entering multiple records under the same customer ID. The common field in the child table is sometimes referred to as the **foreign key**.

As you can undoubtedly guess, **many-to-many relationships** exist when each record in one table can have many matches in the other. This type of relationship between tables is somewhat less common than the other kinds of relationships, and is beyond the scope of this tutorial. If you want additional information, consult the online Help system, the Access documentation, or a more advanced book on Access.

Before you establish a formal relationship between tables, it's good if you know a bit more about exactly *why* it's to your advantage to do so. As mentioned, establishing such a relationship lets Access join the tables without any guesswork. But there's a more crucial reason: When you formally define table relationships, Access can enforce certain rules of referential integrity—this is what you'll learn about next.

REFERENTIAL INTEGRITY

Although the term may sound onerous, **referential integrity** just refers to certain rules that Access enforces to safeguard your data, ensuring that it makes sense. The guiding principle behind referential integrity is that for every record in a child table, there must be one—and only one—record in the affiliated parent table. In terms of Be Fruitful's database, this means that every orders record must have an associated customer record, but cannot have more than one related customer record.

As enforced by Access, referential integrity boils down to these four rules:

- You cannot add a child record for which there is no parent record. (In other words, you cannot add an order for a customer who doesn't exist.)
- You cannot delete a parent record that has related child records. (You cannot delete a customer record if there are matching order records.) If you could do this, you would end up with child records with no parents, which are also known by the colorful term **orphan records**.

- You cannot change a record in the child table so that its foreign key no longer matches up with a record in the primary table. (For example you cannot change the CustomerID field in the BFOrders table so that it no longer matches an existing customer ID in the BFCustomers table.)
- You cannot change a primary-key field in the parent table when there are associated records in the child table. (You cannot change the CustomerID field for a customer record that has matching orders; in BFCustomers, this isn't an issue, since you can't make changes to a Counter field.)

Although all these rules and this new round of terminology may seem complicated at first, keep in mind that by enforcing referential integrity, Access is simply prohibiting you from making errors such as deleting customers for whom there are orders, or entering orders for nonexistent customers.

NOTE

If your existing tables violate the rules of referential integrity, you cannot establish formal relationships between them. This would happen if there were order records with no matching customer record, a situation that could easily occur if you deleted a customer and forgot to also delete her orders. The thing to do in this case is to delete the associated order records and then try again to define a relationship between the tables.

Sometimes you may want Access to enforce referential integrity without prohibiting you from deleting or modifying certain records or fields. There is a solution—actually, there are two solutions, called cascading updates and cascading deletes. If you turn on the **cascade delete** feature, Access lets you delete parent records and then automatically deletes any affiliated child records. (For example, if you deleted a customer's record, any orders for that customer would be deleted automatically.) If you turn on the **cascade update** feature, Access lets you modify the primary-key field in a parent record and then automatically updates the associated field in the related child records to match. (If you could change the CustomerID field in Be Fruitful's database, this feature would enable you to enter a new customer ID in the BFCustomers table and have Access reflect that change automatically in the BFOrders table.)

WARNING

Since cascading deletes and updates enable you to remove and modify many records at once, if you're not paying attention you may wind up deleting or altering more records than you intended. In other words, you should use these two options with care.

ESTABLISHING RELATIONSHIPS BETWEEN TABLES

Once you've determined the type of relationship your tables have, it's an easy matter to define a formal relationship between them. You set up relationships between tables in a graphical environment called the Relationships window. In some ways, the process is not too different from creating joins in the Query Design window, although there are a few additional options from which to choose. While you're establishing the table relationship, you can decide whether to enforce referential integrity, and whether to turn on the cascade update and cascade delete options.

DEFINE A RELATIONSHIP BETWEEN BFCUSTOMERS AND BFORDERS

Here you will establish a formal relationship between the BFCustomers and BFOrders tables.

1. Get into the FRUITFUL Database window, if you're not already there, and click on the Relationships toolbar button or choose Edit, Relationships.

   Access displays the Add Table dialog box, as shown in Figure 7-10, displaying all the available tables in the database. (If you've already established a relationship between tables, Access instead takes you directly to the Relationships window.)

NOTE

If for some reason the Add Table dialog box doesn't come up, you can display it by clicking on Add Table toolbar button or choosing Relationships, Add Table.

2. Click on the Add button to add the BFCustomers table to the Relationships window, which you'll see in just a moment. Then double-click on the BFOrders tables to add it to the Relationships window. Finally, click on the Close button.

   Access closes the Add Table dialog box. You'll end up in the Relationships window with the BFCustomers and BFOrders tables displayed, as shown in Figure 7-11.

3. Click on the CustomerID field in the BFCustomers field list to select it. Then drag it over to the CustomerID field in the BFOrders table. (Make sure to drag *from* BFCustomers *to* BFOrders, and not the other way around.)

   Access displays a Relationships dialog box like the one shown in Figure 7-12. Here is where you choose whether to enforce referential integrity, and whether to turn on cascading updates and deletes. Note

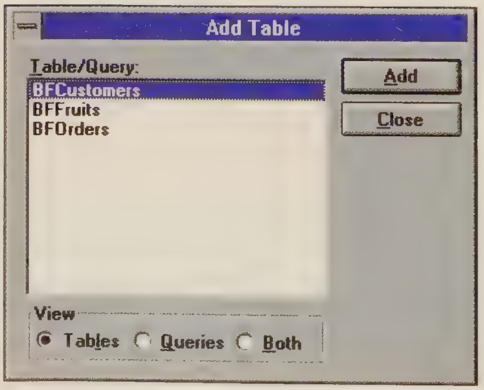


FIGURE 7-10

When you initially choose Edit, Relationships or click on the Relationships toolbar button, Access displays the Add Table dialog box shown here. This is where you choose the tables you want to define the relationship between.

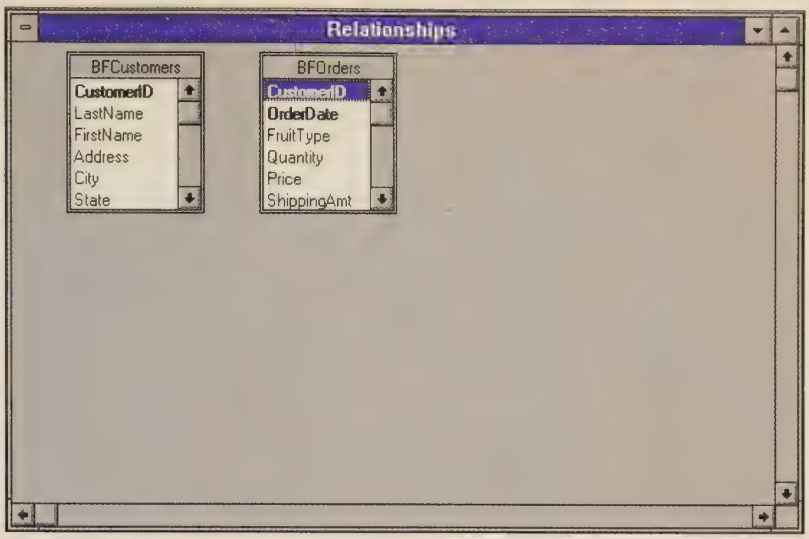
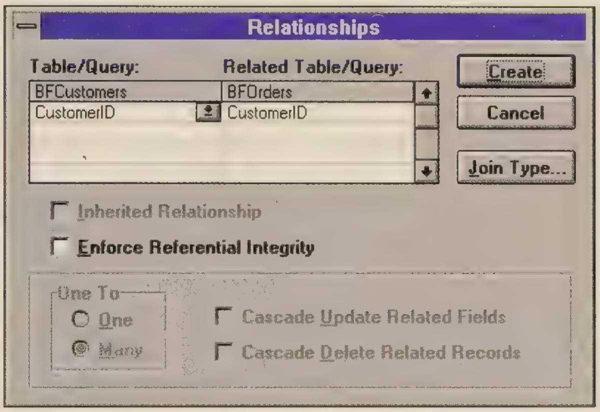


FIGURE 7-11

Once you choose the tables between which you want to establish a relationship, Access places you in the Relationships window. As you can see, the two tables you selected show up in this window. If you end up with extra tables in this window, you can get rid of them by clicking on their title bars and pressing Del.



Table/Query:	Related Table/Query:
BFCustomers	BFOrders
CustomerID	CustomerID

☐ Inherited Relationship
☐ Enforce Referential Integrity

One To
○ One
● Many

☐ Cascade Update Related Fields
☐ Cascade Delete Related Records

FIGURE 7-12

You display this dialog box by dragging to establish a connection between two common fields. Here is where you define formal relationships between tables. The table on the left, BFCustomers, is the primary table; the table on the right, BFOrders, is the child table.

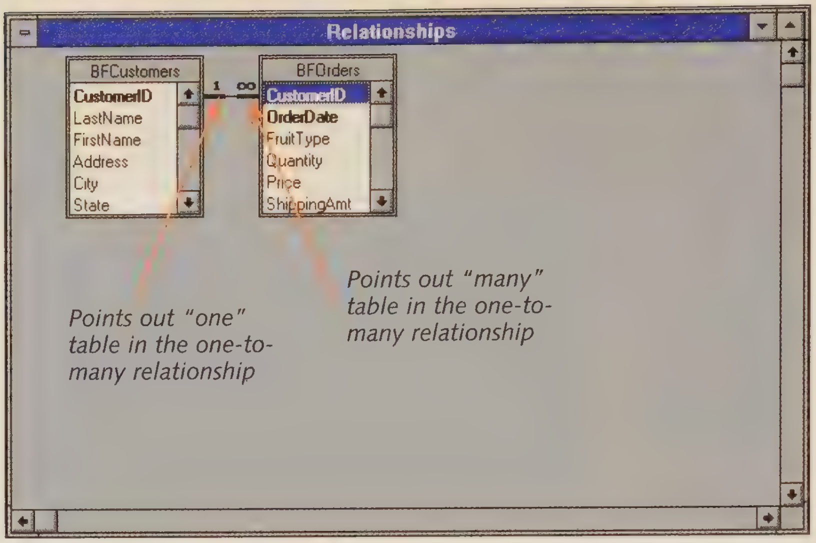
that the BFCustomers table, the one you dragged from, is displayed on the left as the primary table. The BFOrders table, the one you dragged to, is displayed on the right as the related table.

4. Click on the Enforce Referential Integrity check box.

   Access displays an X in the check box to indicate that the option is selected, and also activates the options at the bottom of the dialog box. As you can see, Access now knows that these two tables have a one-to-many relationship, and is going to maintain that relationship by enforcing the rules of referential integrity.

5. Click on the Create button.

   Access closes the Relationships dialog box and returns you to the Relationships window, which now displays the newly created relationship between tables as a line, as shown in Figure 7-13.



Points out "one" table in the one-to-many relationship

Points out "many" table in the one-to-many relationship

FIGURE 7-13

Relationships between tables show up as a line in the Relationships window. The number 1 next to the BFCustomers table indicates that this is the "one" table in the one-to-many relationship. The infinity symbol next to the BFOrders table indicates that this is the "many" table. Access displays these symbols only when referential integrity is enforced.

6. Double-click on the Relationships window's Control-menu box and select Yes when asked if you want to save the changes to the relationships between tables.

   Access saves these relationships automatically, returning you directly to the FRUITFUL Database window.

7. Now try deleting a customer record to see what happens. Double-click on the BFCustomers table to open it, click on the record selector for Franklin Apfelbaum, and then press Del.

   Access displays the alert box shown in Figure 7-14. In this database, all customer records have associated order records—remember, deleting such records is forbidden by the rules of referential integrity.

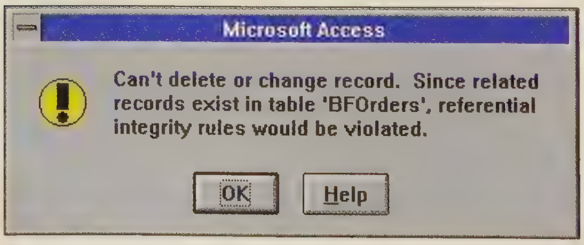
8. Click on OK to close the alert box and return to the table. Then double-click on the Control-menu box to close the table.

9. Double-click on the BFOrders table to open it.

10. Click on the New toolbar button to add a new record to the table.

11. Enter **336** in the CustomerID field (this might be a typo for 36) and enter an order date of **6/15/94**. Now try to save the record by pressing ↓ or choosing File, Save Record.

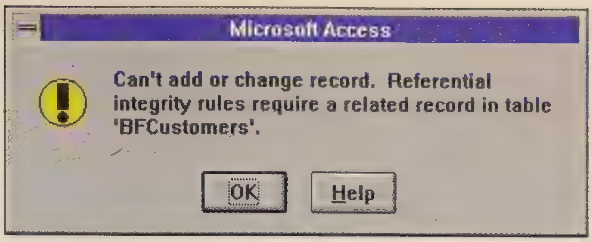
    Access lodges a protest, displaying the alert box shown in Figure 7-15. When you enforce referential integrity, Access won't let you enter a



Can't delete or change record. Since related records exist in table 'BFOrders', referential integrity rules would be violated.

FIGURE 7-14

If Access is enforcing referential integrity, it displays this alert box when you attempt to delete a parent record with associated child records.



Can't add or change record. Referential integrity rules require a related record in table 'BFCustomers'.

FIGURE 7-15
Access displays this alert box when you attempt to enter a record in the child table (BFOrders) for which there is no corresponding record in the parent table (BFCustomers).

record in the child table that doesn't have a corresponding record in the parent table—in this case, an order for a nonexistent customer.

12. Click on OK to close the alert box and return to the table. Then double-click on the Control-menu box.

Access displays same alert box you just saw.

13. Click on OK.

Access displays another alert box, informing you that the record you created can't be saved, and will be lost if you close the table.

14. Click on OK to delete the partial record, close the table, and return to the Database window.

15. Choose Edit, Relationships or click on the Relationships toolbar button.

Access displays the Relationships window showing the BFCustomers and BFOrders tables.

16. Click on the line that marks the relationship between the two tables and choose Relationships, Edit Relationship.

Access displays the Relationships dialog box you saw earlier.

TIP

You have to click on the thin line; it doesn't work to click on the thick lines under the 1 and ∞ symbols.

17. Click on the Cascade Delete Related Fields check box at the bottom of the dialog box to select it. Then click on OK to put this option into effect.

18. Double-click on the Control-menu box to close the Relationships window.

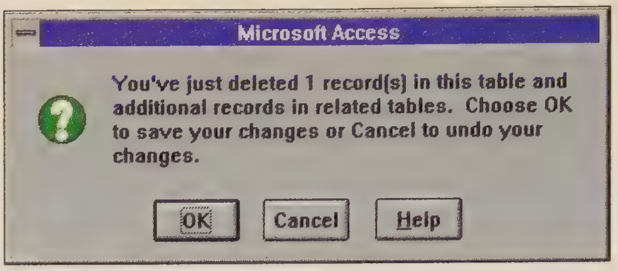
Access returns you to the Database window.

19. Double-click on the BFCustomers table to open it.

20. Select the record for Franklin Apfelbaum and press Del.

This time Access deletes the record without a hitch, just displaying the dialog box shown in Figure 7-16 to double-check that you do indeed want to delete the record. Note that the dialog box indicates that you will be deleting "additional records in related tables."

21. Click on OK to go ahead with the deletion.



You've just deleted 1 record(s) in this table and additional records in related tables. Choose OK to save your changes or Cancel to undo your changes.

FIGURE 7-16

If you have the cascade delete option selected and you delete a record in the parent table (BFCustomers), Access displays a dialog box like this one. This means you can delete the designated customer record and have Access automatically delete any associated records in the related table (BFOrders).

22. Double-click on the Control-menu box to close the BFCustomers table, and then double-click on BFOrders to open that table.

    You'll notice right away that all the orders records for Franklin Apfelbaum (his customer ID number was 1) have been deleted. Since the Cascade Delete Related Fields check box is selected, any deletions in the parent table BFCustomers now "cascade" through to the child table, BFOrders.

23. Double-click on the Control-menu box to close the table.

CREATING A MAIN/SUBFORM

You've already created forms based on multitable queries, but you haven't actually created forms that in themselves draw on multiple tables. You'll do so here. The only Form Wizard that you didn't try out in Lesson 5 was the Main/Subform Wizard. This Wizard enables you to create one form, a **main form**, that includes another form, the **subform**, which is linked to the main form. The main form has a one-to-many relationship with the subform—that is, there is a single record in the main form and potentially many records in the subform. This type of form is particularly useful for displaying one record from a parent table and all corresponding child records. In Be Fruitful's database, for example, you could set up a main/subform in which customer data is displayed in the main form and the matching orders data is displayed in the subform. This is what you'll do next.

CONSTRUCT A MAIN/SUBFORM

In this guided activity, you'll create a main/subform based on the BFCustomers and BFOrders table. This will enable you to view a customer's record along with all the associated orders.

1. Make sure the Table object button is selected and highlight the BFCustomers table; you'll use this table as the main form.
2. Click on the New Form toolbar button.

   Access displays the New Form dialog box.

3. Click on the Form Wizards button.

   You'll see the Form Wizards dialog box, which lets you choose which Form Wizard to run.

4. Click on the Main/Subform option and then click on OK.

   In a moment, Access displays the initial Main/Subform dialog box shown in Figure 7-17. This is where you choose the table whose data you want to show in the subform.

5. Click on BFOrders and click on the Next button.

   You should see a Main/Subform Wizard dialog box asking you to indicate which fields to include on the main form.

6. Choose the fields CustomerID, LastName, FirstName, Address, City, State, and ZipCode, either by selecting them and clicking on the > button or by double-clicking on them. When you're done, click on the Next button.

   Access displays a Main/Subform Wizard dialog box asking you to point out which fields should be included on the subform.

7. Choose the fields OrderDate, FruitType, Quantity, PmtDate, and PmtAmt. Then click on the Next button.

   You'll see the Main/Subform Wizard dialog box for choosing the form style.

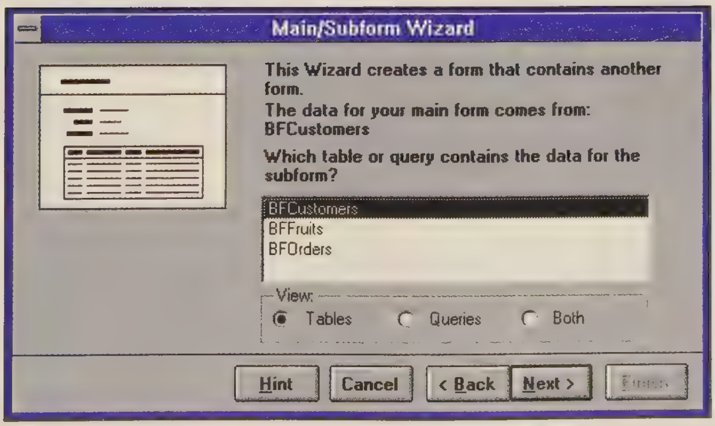
TIP *You don't need to include the common field CustomerID in the subform, since you already included it in the main form.*

8. Choose the Shadowed style for the form and then click on Next to proceed.

   Access displays the final Main/Subform Wizard dialog box, in which you can provide a form title and choose whether to open the form with data or in Design view.

9. Enter the form title **Orders Per Customer**, leave the option button Open The Form With Data In It selected, and click on the Finish button.

   Access displays an alert box that contains the message "You must save the subform before the Main/Subform Wizard can proceed."



Main/Subform Wizard

This Wizard creates a form that contains another form.

The data for your main form comes from: BFCustomers

Which table or query contains the data for the subform?

BFCustomers
BFFruits
BFOrders

View:
● Tables ○ Queries ○ Both

FIGURE 7-17
When you choose the Main/Subform Wizard, Access first displays this dialog box. Here you choose which table to use for the subform. In this case, you want to show data from BFCustomers in the main form and data from BFOrders in the subform.

10. Click on OK. In the Save As dialog box that appears, enter the form name **OrdersSubform** and click on OK to name and save the form.

    Access displays your form, which shows the selected customer information for the first customer in the BFCustomers table (now that's Ms. Bechdel), as well as the designated orders information for this customer, as shown in Figure 7-18.

WARNING

You've just saved the subform, but have not yet saved the main form. You also need to save the main form in a separate operation.

11. Click on the Last Record button in the subform.

    Access displays the final order for the currently displayed customer, Alyson Bechdel.

12. Now click on the Last Record button in the main form.

    You will see the customer information and the order records for the last customer in the BFCustomers table, Cassandra Smith. As you can see, Access always displays the orders information for the selected customer.

13. Choose File, Save Form. In the Save As dialog box, enter **OrdersMainForm**, and click on OK or press Enter.

    Access names and saves the form.

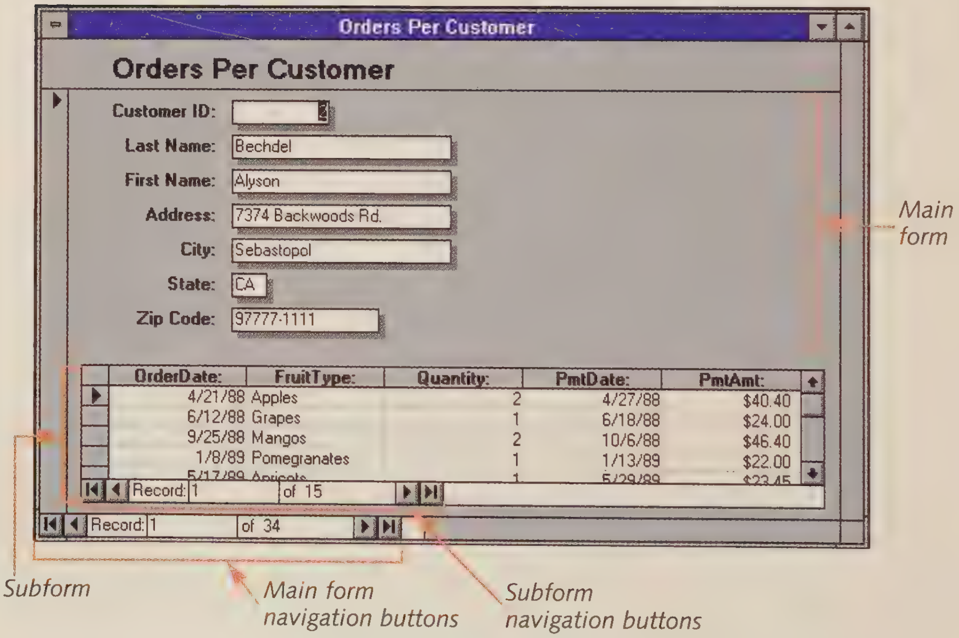


FIGURE 7-18

Here is what the completed main/subform looks like. Notice that the information from the customers table is displayed on top, and the data from the orders table is displayed below, in a subform that closely resembles the datasheet. The main/subform contains two sets of navigation buttons, one for the subform and one for the main form.

Orders Per Customer

Customer ID:
Last Name: Bechdel
First Name: Alyson
Address: 7374 Backwoods Rd.
City: Sebastopol
State: CA
Zip Code: 97777-1111

OrderDate:	FruitType:	Quantity:	PmtDate:	PmtAmt:
4/21/88	Apples	2	4/27/88	$40.40
6/12/88	Grapes	1	6/18/88	$24.00
9/25/88	Mangos	2	10/6/88	$46.40
1/8/89	Pomegranates	1	1/13/89	$22.00
5/17/89	Apricots	1	5/29/89	$23.45

Record: 1 of 15

Record: 1 of 34

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Select control	Click on control		
Select multiple controls	Shift+click on controls		
Select all controls	Choose Edit, Select All	Ctrl+a	
Deselect single control	Shift+click on control		
Deselect all controls	Click away from any controls		
Display or hide Palette	Choose View, Palette	Alt+v, a	🎨
Display or hide Rulers	Choose View, Rulers	Alt+v, r	
Display or hide Grid	Choose View, Grid	Alt+v, g	
Right-align selected controls	Choose Format, Align, Right	Alt+o, a, r	
Left-align selected controls	Choose Format, Align Left	Alt+o, a, l	
Display Tab Order dialog box	Choose Edit, Tab Order	Alt+e, b	
Display list of available fonts	Click on Font Name drop-down list box in toolbar		
Display list of available font sizes	Click on Font Size drop-down list box in toolbar		
Boldface text in selected control			**B**
Italicize text in selected control			*I*
Space controls evenly across form or report	Choose Format, Horizontal Spacing, Make Equal	Alt+o, z, e	
Set up table relationships	Choose Edit, Relationships	Alt+e, r	
Edit table relationships	Choose Relationships, Edit Relationships	Alt+r, r	

MATCHING EXERCISE

Match the terms on the left with the definitions on the right:

TERMS	DEFINITIONS
1. Move handle	**a.** Manner in which Access moves from field to field in form when you press Tab
2. Controls	**b.** Area of form or report, in Design view, that contains material that will be repeated for each record
3. Main/subform	**c.** In one-to-many relationship, table on "one" side of equation
4. Tab order	**d.** Handle on control that enables you to relocate that control individually
5. Cascading deletes	**e.** In one-to-many relationship, table on "many" side of equation
6. Detail section	**f.** Records in child table that do not have corresponding records in parent table
7. Referential integrity	**g.** Type of form that consists of one form within another
8. Child table	**h.** Common field, in child table, that corresponds to primary key in parent table
9. Parent table	**i.** Deletions in parent table that are automatically reflected in child table to maintain referential integrity
10. Orphan records	**j.** Set of rules that Access enforces to ensure that your data makes sense
11. Foreign key	**k.** Elements of form or report that you can manipulate individually

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. If you enforce referential integrity, you cannot:

- **a.** Change records in the parent table.
- **b.** Delete records in the parent table, unless the cascade delete option is activated.
- **c.** Delete records in the child table.
- **d.** Delete records in the child table, unless the cascade delete option is activated.

2. When you want to move two linked controls independently in Design view, you must:

a. Drag on the move handle.

b. Drag on the control's border, away from any of the handles.

c. Drag on any one of the corner handles.

d. Drag on any one of the side handles.

3. To change both the width and height of a control in Design view, you must:

a. Drag on any one of the side handles.

b. Drag on any one of the corner handles.

c. Drag on any one of the corner handles, except for the move handle.

d. Drag on any one of the side handles, except for the move handle.

4. When the cascade delete option is activated:

a. Deleting records in the child table automatically deletes any associated records in the parent table.

b. You cannot delete records in the parent table without first deleting records in the child table.

c. Deleting records in the parent table automatically deletes any associated records in the child table.

d. You cannot delete records in the child table without first deleting records in the parent table.

5. What type of relationship is it when one record in the parent table can match multiple records in the child table, but all records in the child table can match one and only one record in the parent table?

a. A one-to-many relationship

b. A many-to-many relationship

c. A parent-child relationship

d. A one-to-one relationship

6. A main/subform is used to show:

a. All parent records associated with a particular child record

d. All child records for a particular parent record

c. Two tables for which a formal relationship has been established

d. Whether two tables have a one-to-many relationship

7. To deselect a single selected control in Design view:

  a. Click on it.

  b. Shift+click on it.

  c. Ctrl+click on it.

  d. Click on a blank area of the screen.

8. Which section includes information that appears just once at the bottom of a report?

  a. The Group Footer section

  b. The Page Footer section

  c. The Report Footer section

  d. The Detail section

9. When you're aligning Text fields rather than Number fields below their column headings in a report, what's the more standard alignment?

  a. Left aligned

  b. Right aligned

  c. Centered

  d. It's up to you

10. What type of relationship does a main form have with a subform?

  a. One-to-many

  b. One-to-one

  c. One-on-one

  d. Many-to-many

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. List at least two things Access prohibits when you enforce referential integrity.

2. What is the foreign key, and why can it *not* be a unique field?

3. Describe briefly what the tab order is and when you would be likely to change the tab order for a form.

4. Mention one advantage and one potential disadvantage of activating the cascade delete option when you enforce referential integrity.

5. Name the tool you use to change the color of text in Design view. Explain how to display this tool if it's not already in view. Also, mention which color category you'd use to modify the color of some text.
6. Name the types of forms and reports that are most likely to need revising, and say why. (Hint: The first part of the answer is simply the name of a Wizard.)
7. Mention three ways you could make a label stand out more clearly in a form.

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Modify the JoinDateTabForm so that all four fields—FirstName, LastName, PhoneNumber, and DateJoined—are displayed on a single screen at once. You should both reduce the size of the text boxes and move the text boxes to the left. Once you've done this, you'll also need to move the column headings so that they line up with the appropriate fields. (Hint: For more professional-looking results, use the Horizontal Spacing option on the Format menu to space the fields evenly across the form, and use the Align option on the Format menu to line up the fields precisely with their column headings.) When you're done, save the revised form as **JoinDateTabNew**.
2. Open the BFCustNameAddress report in Design view and resize and rearrange the controls so that you can see more records at once on the page. (Hint: The first thing you should do is widen the form's boundary.) While you're doing this, experiment with the various alignment and horizontal- and vertical-spacing options to get the controls lined up just right. When you're done rearranging the controls, make sure to drag up the Page Footer section so that it's just about 1 inch below the Detail section. Preview the report, to see if you notice any problems. For extra credit, see if you can fix the double lines above and below the form title and date. When you're done, save the revised report as **BFCustNameAddressNew**.
3. Open the Relationships window and add the BFFruits table. Drag from the FruitType field in the BFFruits table to the FruitType field in the BFOrders table to establish a relationship between these two tables. In the Relationships dialog box that appears, click on the Create button *without* having selected the Enforce Referential Integrity check box. (Access will insert a line to join the two fields, but will not include the symbols indicating which is the "one" and which the "many" table.) This way, you can delete available fruits from the BFFruits table (perhaps you decided to stop carrying pomegranates) without running into problems with existing order records that include the fruit type pomegranate. Close the Relationships window and save the layout changes.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
BASIC SKILLS			
Start Access	Double-click on Microsoft Access program item		
Open menu	Click on menu name in menu bar	Press Alt in combination with underlined letter in menu name	
Close menu	Click anywhere outside menu	Esc, Esc	
Open File menu	Choose File	Alt+f	
Open Open Database dialog box	Choose File, Open Database	Ctrl+o	📂
Open New Database dialog box	Choose File, New Database	Ctrl+n	🗋
Close dialog box	Click on Cancel *or* Close	Esc	
Close any window	Double-click on its Control menu box	Alt+F4	
Exit Access	Choose File, Exit *or* double-click on Control menu box	Alt+x	
Undo previous action	Choose Edit, Undo	Ctrl+z	↶
Redo previous Undo	Choose Edit, Redo	Ctrl+z	↶
GETTING HELP			
Open Help menu	Choose Help	Alt+h	
Open Help Contents screen	Choose Help, Contents	Alt+h, c	
Obtain context-sensitive help on screen items	Click on Help button and click on screen element	Press Shift+F1 and click on screen item	↖?

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Obtain context-sensitive help on dialog boxes and menu options	Click on Help button, click on desired menu bar option, and select menu option in question	Press F1 with menu option selected *or* dialog box open	?
Open Search dialog box in Help system	Choose Help, Search	Alt+h, s	
Open Cue Cards	Choose Help, Cue Cards Cards	Alt+h, u	?
WORKING IN TABLE DESIGN VIEW			
Move to next column	Click in desired column	Tab	
Move to previous column	Click in desired column	Shift+Tab	
Switch to and from Field Properties area	Click in desired area of Table Design window	F6	
Select field (row)	Click on field selector		
Set primary key	Select desired field *or* fields, and choose Edit, Set Primary Key	Alt+e, s	🔑
Save table design	Choose File, Save	Ctrl+s	💾
Save table design under new name	Choose File, Save As	Alt+f, a	
Insert row (field)	Choose Edit, Insert Row	Alt+e, i	
Delete row (field)	Choose Edit, Delete Row	Alt+e, d	
WORKING IN THE DATASHEET			
Move to next field	Click in column	Tab *or* Enter	
Move to previous field	Click in column	Shift+Tab	
Move to first field in current record	Click in column	Home	
Move to last field in current record	Click in column	End	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Move to first field in first record		Ctrl+Home	
Move to last field in last record		Ctrl+End	
Move to first record	Choose Records, Go To, First	Alt+r, g, f	⏮
Move to last record	Choose Records, Go To, Last	Alt+r, g, l	⏭
Move to previous record	Choose Records, Go To, Previous	↑	◀
Move to next record	Choose Records, Go To, Next	↓	▶
Move to specific record	Double-click on current record number, enter new record number, and press Enter	Press F5, enter new record number, and press Enter	
Select all records	Choose Edit, Select All	Ctrl+a	
Copy data to Clipboard	Choose Edit, Copy	Ctrl+c	📋
"Paste append" records from Clipboard into open table	Choose Edit, Paste Append		
Switch between navigating and editing		F2	
Select record	Click on record selector *or* choose Edit, Select Record	Alt+e, l	
Select column	Click on column selector		
Add new record	Choose Records, Go To New	Alt+r, g, w	▶*
Delete character to right of insertion point		Del	
Delete character to left of insertion point		Bksp	
Undo changes to current field	Choose Edit, Undo Current Field	Esc	✗
Undo changes to current record	Choose Edit, Undo Current Record	Esc	✗
Undo most recent change	Choose Edit, Undo	Ctrl+z	↶

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Redo most recent Undo operation	Choose Edit, Redo	Ctrl+z	↶
Display Zoom window for adding or editing text		Shift+F2	
Duplicate value in current field from previous record		Ctrl+’	
Open Find dialog box	Choose Edit, Find	Ctrl+f	🔍
Open Replace dialog box	Choose Edit, Replace	Ctrl+h	
Narrow or widen column	Drag on column’s left column border		
Increase or decrease row height	Drag on any border between record selectors		
Move one or more columns	Select column *or* columns and then drag on column selector		
Hide one or more columns	Select column *or* columns and choose Format, Hide Columns	Alt+o, h	
Open Show Columns dialog box	Choose Format, Show Columns	Alt+o, s	
Freeze one or more columns	Select column *or* columns and choose Format, Freeze Columns	Alt+o, z	
Unfreeze all frozen columns	Choose Format, Unfreeze All Columns	Alt+o, u	
SORTING AND SELECTING RECORDS			
Quick-sort selected field(s) in ascending order	Choose Records, Quick Sort, Ascending	Alt+r, q, a	AZ↓
Quick-sort selected field(s) in descending order	Choose Records, Quick Sort, Descending	Alt+r, q, d	ZA↓
Open Filter Design window	Choose Records, Edit Filter/Sort	Alt+r, f	⏷
Apply filter	Choose Records, Apply Filter/Sort	Alt+r, y	⏷
Remove filter	Choose Records, Show All Records	Alt+r, s	⏷

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Clear filter from Filter Design window	Choose Edit, Clear Grid	Alt+e, a	
Initiate new query	Choose File, New, Query	Alt+f, w, q	
Run query	Choose Query, Run	Alt+q, r	!
Add tables to existing query	Choose Query, Add Table	Alt+q, a	
Switch to Query Design view	Choose View, Query Design	Alt+v, d	
Switch to Datasheet view	Choose View, Datasheet	Alt+v, s	▦
Save query	Choose File, Save Query, *or* Save	Alt+f, s	💾
Save query under new name	Choose File, Save Query As *or* Save As	Alt+f, a	
BUILDING FORMS			
Create AutoForm			
Move to first record	Choose Records, Go To, First	Alt+r, g, f	⏮
Move to last record	Choose Records, Go To, Last	Alt+r, g, l	⏭
Move to previous record	Choose Records, Go To, Previous	↑	◀
Move to next record	Choose Records, Go To, Next	↓	▶
Move to specific record	Double-click on current record number, enter new record number, and press Enter	Press F5, enter new record number, and press Enter	
Switch to form's Datasheet view	Choose View, Datasheet	Alt+v, s	▦
Switch to Form view	Choose View, Form	Alt+v, f	
Initiate FormWizard			
Save form	Choose File, Save Form	Ctrl+s	

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Add new record to form			▶*
Sort form's records in ascending order	Choose Records, Quick Sort, Ascending	Alt+r, q, a	AZ↓
Sort form's records in descending order	Choose Records, Quick Sort, Descending	Alt+r, q, d	ZA↓
Open Filter Design window	Choose Records, Edit Filter/Sort	Alt+r, f	Y
Apply filter	Choose Records, Apply Filter/Sort	Alt+r, y	Y
Preview form	Choose File, Print Preview	Alt+f, v	🔍
Close Print Preview	Choose View, Form	Alt+v, f	←
Print form	Choose File, Print	Ctrl+p	🖨
CREATING REPORTS			
Create AutoReport			✎
Move to first page page in report			⏮
Move to last page in report			⏭
Move to next page in report			▶
Move to previous page in report			◀
Move to specified page	Double-click on current page number, enter new page number, and press Enter	Press F5, enter new page number, and press Enter	
Zoom display in or out	Click on report		🔍
Save report	Choose File, Save	Ctrl+s	
Initiate Report Wizards			✎
View report in Print Preview	Choose File, Print Preview	Alt+f, v	🔍

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Print report	Choose File, Print	Ctrl+p	🖶
Close report window	Choose File, Close	Alt+f, c	🚪
WORKING IN FORM OR REPORT DESIGN VIEW			
Select control	Click on control		
Select multiple controls	Shift+click on controls		
Select all controls	Choose Edit, Select All	Ctrl+a	
Deselect single control	Shift+click on control		
Deselect all controls	Click away from any controls		
Display or hide Palette	Choose View, Palette	Alt+v, a	🎨
Display or hide Rulers	Choose View, Rulers	Alt+v, r	
Display or hide Grid	Choose View, Grid	Alt+v, g	
Right-align selected controls	Choose Format, Align, Right	Alt+o, a, r	
Left-align selected controls	Choose Format, Align, Left	Alt+o, a, l	
Display Tab Order dialog box	Choose Edit, Tab Order	Alt+e, b	
Display list of available fonts	Click on Font Name drop-down list box in toolbar		
Display list of available font sizes	Click on Font Size drop-down list box in toolbar		
Boldface text in selected control			B
Italicize text in selected control			*I*
Space controls evenly across form or report	Choose Format, Horizontal Spacing, Make Equal	Alt+o, z, e	
ESTABLISH TABLE RELATIONSHIPS			
Set up table relationships	Choose Edit, Relationships	Alt+e, r	⊞
Edit table relationships	Choose Relationships, Edit Relationships	Alt+r, r	

GLOSSARY

action query Query that enables you to make global changes to your data.

ascending sort Sort in which letters are arranged from A to Z, numbers from smallest to largest, and dates from earliest to most recent.

AutoForm form that Access builds for you automatically, based on the selected table or query.

Byte number type Number type for Number fields that lets you store whole numbers from 0 to 255; you can't enter fractional values in such fields.

cascade delete Feature that causes Access to automatically delete any affiliated child records when you delete a parent record.

cascade update Feature that causes Access to automatically update the associated field in any related child records when you modify the primary-key field in a parent record.

case-sensitive Taking into account the case of the letters—that is, differentiating between upper- and lowercase.

check box Dialog box option that you can click on once to select (place an *X* in the box) and again to deselect (remove the *X*).

child table The "many" table in a one-to-many relationship between two tables—that is, the table that can include many records that match up with a single record in the parent, or "one," table. *See also* parent table

click To move the mouse until the mouse pointer is located over the desired option or item, and then press and quickly release the mouse button (usually the left button).

Clipboard Temporary storage area in your computer's memory.

command button Window or dialog box button that enables you to carry out some sort of action.

common field Field that has the same name and data type as a field in one or more other tables. You need to set up common fields in preparation for sharing data between tables; the common field is what lets Access find matching data in different tables.

context-sensitive help Help system information relevant to the task you're performing at the moment.

control Form or report element that you can manipulate individually in Design view.

Control-menu box Dash-shaped icon at the left end of the Title bar that you can double-click on to close the window.

Counter field Fields with the Counter data type. These fields store numbers that begin with 1 and that Access increments by 1 automatically with each new record added to the table.

Cue Card Component of the Help system that presents step-by-step directions for helping you perform common Access tasks. Unlike normal Help screens, Cue Cards can remain on the screen while you work within Access.

Currency field Field with the Currency data type. These fields are for storing numeric values that you want displayed with a currency symbol, a decimal point, and separators (usually commas) every three digits.

database Organized collection of information about similar entities. In Access, *database* also means a collection of objects—such as reports, forms, tables, and queries—associated with a particular topic.

Database window Window that lets you gain access to all the objects (tables, forms, reports, queries, and so on) in a particular database.

datasheet Tabular layout of rows and columns that lets you start adding, editing, and viewing your data immediately, without having to create a custom form.

data type Designation that determines what type of data can be entered into a field.

Date/Time field Field with the Data/Time data type. These fields are for storing dates and times.

DBMS (database management system) System for storing and manipulating the data in a database.

delimiters Special characters Access uses to mark particular information as having a specific data type. If you enter dates as selection criteria, for example, Access automatically encloses them within pound-sign (#) delimiters so that it can recognize them as dates.

descending sort Sort in which letters are arranged from Z to A, numbers from largest to smallest, and dates from most recent to the earliest.

Design view View that permits you to set up and modify the structure and appearance of tables, queries, forms, and reports.

dialog box Special type of window requesting further information that is needed before a command can be executed.

ditto key Ctrl+’ key combination, which repeats the value from the same field in the previous record.

double-click To press and quickly release the mouse button (usually the left button) twice in rapid succession.

Double number type Number type for Number fields that lets you store real numbers (fractional values allowed) with ten digits of precision.

drop-down list box Dialog box components that supply a set of values from which you can choose. You have to click on the downward-pointing arrow on the right side of the list box to reveal the possible choices.

dynaset Subset of your data sorted and selected as specified by a query. Dynasets change to reflect modifications to the data in your tables, and you can often make changes to dynasets that are reflected in the underlying table(s).

field Columns in a table that contain categories of data.

field selector Small box to the left of a field that you can click on to select the entire field.

filter Way of filtering your data to see only a selected portion of it, in the designated sort order.

foreign key Field in a child table that has the same name and data type as the primary key in the parent table.

form Screen that presents a custom layout for your data, enabling you to view, edit, and enter the data from your tables.

Form Wizard *See* Wizards

freeze To make columns permanently visible on the screen.

groups/totals report Report that groups records based on one or more fields, and provides totals for each group, as well as grand totals at the end of the report.

handles Square boxes that may enclose the controls in a form or report when you're in Design view. These handles indicate that a control is selected and enable you to change its size and location.

hot key Underlined letter in menu or option names that you use to select that option. Press the hot key by itself to choose an option within a menu; press the hot key in combination with Alt to open a menu.

input mask Field property that lets you ensure that a particular format is applied to the data in that field.

Integer number type Number type for Number fields that lets you store whole numbers from –32,768 to 32,768; you can't enter fractional values in such fields.

join Way of notifying Access how to match up records from one table with the appropriate records from any other tables.

jump Underlined word or phrase in the Help system that enables you to "jump" to another, related Help screen or display a pop-up window of supplementary help information.

keyboard shortcut Way of using the keyboard to execute a command without going through the menu system. Usually a combination of Ctrl plus one letter.

landscape orientation Horizontal page orientation.

link Connections between topics in the Access Help system. These links enable you to jump to other, related topics.

list box Dialog box component that presents a number of selections from which you can choose.

Long integer number type Number type for Number fields that lets you store whole numbers from roughly –2 billion to 2 billion; you can't enter fractional values in such fields. (Counter fields actually have the Long Integer number type.)

macro Sequence of commands that you can instruct Access to perform for you automatically.

mailing label Name and address or other information that you can gather from tables or queries and print for mass mailings and the like.

main form Portion of a main/subform that includes another form, called the subform. The subform is linked to the main form. The main form has a one-to-many relationship with the subform—that is, there is a single record in the main form and potentially many records in the subform.

many-to-many relationship Relationship between tables in which each record in one table may have many matches in the other.

Maximize button Upward-pointing triangle to the right of the Minimize button that enables you to enlarge the window so that it fills the entire screen.

Memo field Field with the Memo data type. These fields can contain up to 64,000 letters, numbers, and punctuation marks.

Menu bar Set of options below the Access Title bar that lead to associated pull-down menus for issuing commands. The available options on the Menu bar change depending on the context.

Minimize button Downward-pointing triangle at the right end of the Title bar that lets you reduce a window to the size of an icon.

module Program written in Access Basic, the database programming language provided with Access.

move handle Large handle in the upper-left corner of a selected form or report control. This handle enables you to move the control individually.

Number field Field with the Number data type. These fields can only include digits, the decimal point, and the minus sign.

Object buttons Buttons down the left side of the Database window that represent the available types of objects in Access.

objects Major components of Access, including tables, queries, forms, reports, modules, and macros.

OLE Object field Field with the OLE Object data type. These fields are for holding nontext objects such as pictures, graphs, and sounds that have been created in programs other than Access.

one-to-many relationship Relationship between two tables in which each record in the primary table can have no records, one record, or many matching records in the related table, but every record in the related table has one—and only one—associated record in the primary table.

one-to-one relationship Relationship between two tables in which every record in the primary table can have either no matching records or only a single matching record in the related table.

option button Dialog box option that enables you to choose between mutually exclusive choices. Selecting one option button generally deselects any other option button in the group. (Option buttons are sometimes called radio buttons.)

orphan record Child record with no associated parent record.

parent table Primary table in a one-to-many relationship between two tables. *See also* child table

portrait orientation Vertical page orientation.

primary key Field or set of fields that uniquely identifies each record in the table.

primary table Table that you take the perspective of when evaluating the relationship between two tables. *See also* related table

property Characteristic of a particular field or control.

QBE grid (Query-by-Example grid) Grid in the Query Design window in which you make decisions about how to sort and select your data, and which fields to include in the dynaset.

query Question to the database, asking for a specified set of records from one or more tables or other queries.

radio button *See* option button

records Rows in a table that contain the set of fields for one particular entity.

record selector Box to the left of a record that you can click on to select the entire record.

referential integrity Rules that Access can enforce to guarantee that your data makes sense, ensuring that every record in a child table has one—and only one—matching record in the affiliated parent table.

related table Table that you're *not* taking the perspective of when evaluating the relationship between two tables.

relational database Database program that lets you link two or more tables in order to share data between them.

report Database object that permits you to produce polished printed output of the data from tables or queries. Some Access reports automatically generate totals and grand totals of the values in particular fields.

Report Wizard *See* Wizard

Restore button Icon in the shape of two triangles, to the right of the Minimize button, that lets you return the window to its previous size.

reverse video White text against a dark background.

save To take information from your computer's memory and store it on a more permanent medium—usually a floppy disk or a hard drive.

section Areas of a report or form. Can be a Report or Form Header, Report or Form Footer, Page Header, Page Footer, Group Header, Group Footer, or Detail section.

select To choose an item to indicate to Access that you want to operate on that particular item. Alternatively, select can mean extracting specified subsets of data based on criteria that you define.

selection criteria Instructions telling Access exactly which records you want to extract from the database.

select query Query that you can use to sort, select, and view records from one or more tables. Unlike action queries, select queries don't change data automatically.

single-column form Form in which all fields are displayed in a single column, with field labels or captions to their left as identifiers.

single-column report Report in which all fields are displayed in a single column, with field labels or captions to their left as identifiers.

sort To rearrange records into alphabetical, numerical, or chronological order.

Status bar Bar across the bottom of the screen that displays information about the task at hand or the current Access environment.

subform Portion of main/subform that is linked to the main form. The subform has a many-to-one relationship with the main form. In other words, there are potentially many records in the subform for each single record in the main form.

summary report Report that is much like a groups/totals report but just shows group summary statistics and grand totals, without including the detail of the individual records.

table Receptacle for data that is organized into a series of columns (fields) and rows (records).

Table Wizard *See* Wizards

tab order Order in which Access moves from field to field when you press Tab.

tabular form Form that displays all the fields for a single record in one row, field names or captions as column headings, and all fields in the table or query as a tabular arrangement of rows and columns.

tabular report Report that displays all the fields for a single record in one row, field names or captions as column headings, and all fields in the table or query as a tabular arrangement of rows and columns.

text box Dialog box element in which you can type the desired value.

Text field Field with the Text data type. These fields can hold up to 255 characters, including letters, numbers, and punctuation marks.

Title bar Bar across the top of a window listing the name of the application or document.

toolbar Series of buttons that are mouse shortcuts for frequently executed commands. Like the Menu bar, the toolbar may present different options depending on the context.

ToolTip Short description of a toolbar button displayed immediately below the toolbar when the mouse pointer is placed over the toolbar button.

wildcard Special characters that stand in for one or more characters. Typically, * stands for multiple characters and ? stands for a single character.

Wizard Special tool that guides you through the process of creating tables, queries, forms, or reports. Wizards prompt you with questions about the object you're creating, building that object based on the answers you supply.

WYSIWYG On-screen view or preview that closely resembles the final printed output. WYSIWYG is computer jargon for "what you see is what you get."

Yes/No field Field with the Yes/No data type. These fields can only accept one of two logical values—Yes or No, True or False, or On or Off.

INDEX

Access
  exiting, 28
  icon for, 5, 6
  starting, 4–6
  startup window, 6–7
ACCESS directory, 28
action queries, 113
Add-Ins command (File menu), 9
address formats, 42, 68
Add Table command (Query menu), 119
Add Table dialog box, 114, 204
Add Table toolbar button, 119
Align command (Format menu), 200
aligning
  controls, 199, 200
  manually, 194
  sections of reports, 198–199
  with Snap To Grid option, 193
  text, 200
Alphabetical List of Products report, 17
Alt+ key combinations
  Alt+F4 for exiting Access, 28
  for choosing menu options, 8
Apples file, 120
ApplesOranges file, 121
Apply Filter/Sort command (Records menu), 106, 148
Apply Filter/Sort toolbar button, 106
arrow as mouse pointer, 85
arrow keys for navigating, 74, 77
arrow with question mark as mouse pointer, 21
ascending sorts, 100
asterisk (*) as record selector, 67
AutoForm feature, 130–133
AutoForm toolbar button, 130
automatic edits
  with data types for table fields, 47–48
  with field properties for table fields, 49–50
  with field size limitations, 68
automatic saving, 70
AutoReport toolbar button, 158
AutoReport Wizard, 157–160
beeps (upon data entry errors), 68
"Be Fruitful" sample database application, 36
Between...And comparison operator for filters, 108, 111
BFCustAutoForm file, 132, 144, 190, 192
BFCustAutoFormNew file, 196
BFCustAutoReport file, 160
BFCUST file, 70
BFCustNameAddress file, 137, 147, 164
BFCustNameAddressNew file, 215
BFCustomers table, 15, 42–43
  adding data in Datasheet view, 66–70
  creating, 40–45
  customizing datasheet view, 85–90
  editing, 77–80
  fields needed in, 37
  filtering, 103–112
  find and replace operations, 80–84
  modifying structure, 55–58
  navigating through, 73–75
  querying, 113–122
  sorting, 100–103
BFOrders table
  creating, 45–47, 50–53
  fields needed in, 37
  querying in multitable query, 118–122
binoculars icon as Find toolbar button, 81
Bksp for deleting backwards, 77
boldface
  creating with toolbar button, 198
  as used in this book, VII
Bold toolbar button, 198
box as mouse pointer, 104
buttons
  on toolbars, 10–11
  for options and commands, 10
  for selecting objects, 11–12
  toggle-style, 198
  See also toolbar buttons by name or function
byte number type, 49
C:\> as DOS prompt, 4
"Can't delete or change record. Referential integrity rules require a related record..." message, 207
"Can't delete or change record. Since related records exist..." message, 206
CAPhones file, 116
Caps Lock key mode indication on Status bar, 7
caption (table field property), 50
cascading updates and deletes, 203, 207
case-sensitivity
  in searches, 84
  in sorts, 100
check boxes, 9, 10
child/parent records and tables, 202
clicking on mouse, 8
Clipboard for copying data, 71, 72
Close command (File menu), 16
Close Database command (File menu), 12
Close Window toolbar button, 160
closing
  forms, 16
  queries, 16
  reports, 17
  tables, 16
  windows, 160
colors for forms in Design view, 196
columns
  as fields, 15
  freezing on screen, 84–85
  hiding in datasheet view, 87–88
  rearranging in datasheet view, 86–87
  width adjustments in datasheet view, 85–86
command buttons, 9, 10
command summaries by operation
  boldface, 211
  column freezing or unfreezing, 93
  column or row size adjustments, 92–93
  control selection, 211
  copying data, 91
  datasheet handling, 217–219
  deleting data, 92
  displaying or hiding rulers, grids or palettes, 211
  filters, 123, 219
  find and replace operations, 92
  font selection, 211
  Form Design view, 222
  form handling, 151, 220–221
  help system, 29, 216–217
  italics, 211
  navigating in datasheets, 217–218
  navigating in reports, 182
  navigating in tables, 59, 91
  for opening and closing objects and windows, 29, 183, 216
  previewing printing, 151
  primary key specification, 59
  printing forms, 151
  printing reports, 183
  queries, 123, 220
  Quick Sorts, 123
  Report Design view, 222
  report handling, 221–222
  row handling, 59
  saving tables and table designs, 59
  selecting records, 91, 92
  sorting, 151, 219–220
  for starting Access, 29
  Table Design view, 217
  table relationships, 211, 222
  undoing or redoing actions, 56, 92, 216, 218–219
common fields, 37
comparison operators for filters, 108
Contents command (Help menu), 17–22
context-sensitive help, 21
Control-menu box for exiting functions or programs, 6, 7, 12
controls as objects on forms or reports, 191
copying
  by dittoing value from previous record, 80
  data from other tables, 70–72
Copy toolbar button, 71
counter fields, 48, 67
Ctrl+ key combinations
  Ctrl+End key for navigating, 74
  Ctrl+Esc for Windows Task List, 27

  - Ctrl+' for dittoing value from previous record, 80
  - Ctrl+Home key for navigating, 74
  - Ctrl+n for New Database command, 9
  - Ctrl+o for Open Database command, 9, 10
- Cue Cards, 6, 24–27
- Cue Cards button, 24
- Cue Cards command (Help menu), 24–27
- currency fields, 48
- current record, 66, 73
- Customer List query, 16, 17
- Customers form, 16
- Customers table. *See* BFCustomers table
- customizing datasheets, 84–90

- databases, 3
  - as collections of objects, 13
  - creating, 38–40
  - design considerations, 35–38
  - NWIND.MDB sample, 11, 14
  - opening existing, 11, 12
  - sample "Be Fruitful" application, 36
- Database window, 11–12
- data entry
  - advantages of forms for, 129
  - copying from another table, 70–72
  - in datasheet view, 66–70
  - *See also* forms
- Datasheet command (View menu), 116
- datasheets
  - for copying data from other tables, 70–72
  - customizing, 84–90
  - for data entry, 66–70
  - described, 65
  - editing records, 76–80
  - finding and replacing values, 80–84
  - navigating, 72–75
  - selecting fields, records or columns, 75–76
- Datasheet view, 65
  - of forms, 129, 130
  - reports in, 158
- Datasheet View toolbar button, 116
- data types for fields in tables, 46–48
- dates
  - formatting with field properties, 49, 68–69
  - sorting on, 102
- date/time fields, 48
- DBMSs (database management systems), 3
- decimal places (table field property), 49
- default value (table field property), 50
- Delete Row command (Edit menu), 56
- Delete Row toolbar button, 56
- deleting
  - backwards with Bksp, 77
  - caution on, 79
  - rows from tables, 56
  - table joins, 119
- Del key for deletions, 75, 76
- descending sorts, 100
- Design button, 12
- Design view, 15
  - how to use, 190–192
  - modifying forms in, 189, 192–197
  - modifying reports in, 189, 197–200
- Design View toolbar button, 115
- Detail section of forms or reports, 191
- dialog boxes
  - described, 10
  - indication with ellipsis (...), 9
- directories
  - ACCESS, 28
  - creating, 27–28
  - FRUITFUL, 28
  - SAMPAPPS, 11
  - selecting for new databases, 39
- dittoing value from previous record, 80
- DOS prompt, 4
- double-clicking of mouse, 5
- double-headed arrow as mouse pointer, 85
- double number type, 49
- drop-down lists, 9, 10
- dynasets from queries, 113

- Edit Filter/Sort command (Records menu), 104, 148
- Edit Filter/Sort toolbar button, 104
- editing
  - adding blank rows to tables, 56
  - deleting rows from tables, 56
  - fields on forms, 144
  - records, 76–80
  - table designs, 54–58
  - *See also* automatic edits
- editing automatically with data types for table fields, 47–48
- Edit menu
  - Delete Row command, 56
  - Find command, 81
  - Insert Row command, 56
  - Paste Append command, 72
  - Relationships command, 207
  - Set Primary Key command, 52
  - Tab Order command, 195–196
  - Undo command, 56
  - Undo Saved Record command, 78
  - Undo Typing command, 78
- ellipsis (...) following menu items, 9
- End key
  - for last form field in record, 143
  - for last table field in record, 74
- Enforce Referential Integrity check box, 205
- Enter key for navigating in datasheets, 67
- equal sign (=) as comparison operator for filters, 108
- Esc key
  - for exiting menu options, 9
  - for undoing actions, 78
- Exit command (File menu), 28
- exiting
  - Access, 28
  - Cue Card help, 27
  - File Manager, 28
  - Help system, 21
  - menu options, 9
  - Welcome screen, 6
- extensions, .MDB, 39, 53

- Field Properties. *See* properties of fields in tables
- field selector, 52
- fields in tables, 3
  - adding or deleting all to/from new tables, 42
  - common, 37
  - descriptions for, 46–47
  - labels for, 50
  - naming, 46
  - order as listed, 41
  - properties of, 47
  - rearranging, 56–57
  - sizing, 49
  - *See also* properties of fields in tables; tables
- fields on forms
  - editing, 144
  - *See also* forms
- File Manager
  - exiting, 28
  - opening, 27
- File menu, 8–10
  - Add-Ins command, 9
  - Close command, 16
  - Close Database command, 12
  - Exit command, 28
  - New Database command, 38–40
  - New Query command, 118–119
  - Open Database command, 9
  - Print command, 150
  - Print Preview command, 150
  - Save As command, 54
  - Save command, 53
  - Save Query As command, 117
  - Save Query command, 116
- filename extensions. *See* extensions
- files
  - Apples, 120
  - ApplesOranges, 121
  - BFCUST, 70
  - BFCustAutoForm, 132, 144, 190, 192
  - BFCustAutoFormNew, 196
  - BFCustAutoReport, 160
  - BFCustNameAddress, 137, 147, 164
  - BFCustNameAddressNew, 215
  - BFOrders, 54
  - CAPhones, 116
  - FRUITFUL.MDB, 39, 53
  - FruitSummary, 186
  - GroupedNamesAddresses, 186
  - JoinDate, 127
  - JoinDateTabForm, 139
  - JoinDateTabNew, 215
  - 92-93QuarterlySales, 143
  - 1993Orders, 166
  - 1993OrdersTabular, 168, 197
  - 1993OrdersTabularNew, 200
  - Oranges, 120
  - OrdersByYearAndFruit, 172
  - OrdersMainForm, 210
  - OrdersSubform, 210
  - OrderSummary, 176
  - OrdTypeQuant, 155
  - Post91Cust, 117
  - Post93Orders, 127
  - Post1991Cust, 155
  - SAMPLE.MDB, 70–71
  - TabularOrders, 186
  - TwoAcrossCustLabels, 180
  - Unpaid Orders, 122, 155, 186
  - UnpaidOrdersNameAddress, 155
- Filter Design window, 103–107
- filtering, 103–112
- find and replace operations, 80–84
- Find command (Edit menu), 81
- Find in Field dialog box, 81
- Find toolbar button, 81
- FLTR indicator in Status bar, 106
- fonts for reports, 198
- footers for forms or reports, 190
- foreign keys, 202, 203

- Format menu
  - Align command, 200
  - Freeze Columns command, 89
  - Horizontal Spacing command, 199
  - Show Columns command, 88
  - Snap To Grid option, 193
  - Unfreeze All Columns command, 90
- format (table field property), 49
- Form command (View menu), 150
- Form object button, 133, 190
- forms, 13, 129
  - as Access objects, 13
  - closing, 16
  - creating graphs with Graph Wizards, 140–143
  - creating in Design view, 189
  - creating single-column with Form Wizards, 133–137
  - creating tabular with Form Wizards, 137–139
  - creating using multiple tables, 208–210
  - creating with AutoForm, 130–133
  - Customers, 16
  - for data entry and editing, 143–146
  - headers and headers for, 190
  - main and subform, 208–210
  - modifying in Design view, 189, 192–197
  - opening existing, 16
  - page headers and footers for, 190–191
  - previewing and printing, 149–150
  - sections of, 190
  - for sorting and selecting data, 147–149
- Form view, 132
- Form View toolbar button, 132
- Form Wizards dialog box, 135
  - for forms using multiple tables (Main/Subform option), 208–209
- Freeze Columns command (Format menu), 89
- FRUITFUL directory, 28
- FRUITFUL.MDB file, 39, 53
- Fruits table fields, 37
- FruitSummary file, 186
- function keys
  - F1 for context-sensitive help, 21
  - F2 for switching between editing and navigating modes, 75, 77
  - F6 for Field Properties area, 47
- graphs with Graph Form Wizard, 140–143
- Graph Wizard dialog box, 140–142
- greater than/less than signs (<>)
  - as comparison operator for filters, 108
- GroupedNamesAddresses file, 186
- group headers and footers, 191
- Groups/Totals Report Wizard, 168–174
- Groups/Totals Report Wizard dialog box, 170–171

- hand as mouse pointer, 19
- handles on control objects, 191
- headers for forms or reports, 190
- help
  - exiting, 21
  - for functions of toolbar buttons, 10–11
  - from Help/Contents command, 17–22
  - from Help/Cue Cards command, 24–27
  - from Help/Search command, 22–24
  - running in background, 21
- highlight toggle with F2, 77
- Home key
  - for first form field in record, 143
  - for first table field in record, 74
- Horizontal Spacing command (Format menu), 199
- hourglass icon, 6

- icons
  - hourglass, 6
  - for Microsoft Access, 5, 6
  - for Microsoft Office, 5
  - pencil, 67, 73
  - toolbar buttons as, 10–11
  - *See also* command summaries by operation
- importing data from other programs, 70
- input mask (table field property), 50
- insertion point (flashing vertical line), 46
- Insert Row command (Edit menu), 56
- Insert Row toolbar button, 56
- Insert key mode indication on Status bar, 7
- integer number type, 49
- Is Null comparison operator for filters, 108, 122
- JoinDate file, 127
- JoinDateTabForm file, 139
- JoinDateTabNew file, 215
- joins for related tables, 118–119, 200
  - deleting, 119
- jumps (underlined phrases in help), 19

- keyboard
  - for choosing menu options, 8
  - *See also* command summaries by operation
- keyboard shortcuts, 9
- keys
  - foreign, 202, 203
  - primary, 38

- labels
  - for fields in tables, 50
  - with Mailing Label Wizard, 176–181
- landscape orientation of reports, 163
- Last Record button, 74
- Like comparison operator for filters, 108
- linking
  - multiple tables, 4, 37, 200–210
  - tables with joins, 118–119, 200
- links between help topics, 18
- list boxes, 9, 10
- long integer number type, 49

- macros, 14
- mailing labels, 13, 176–181
  - printing, 181–182
- Mailing Label Wizard, 176–181
- Mailing Label Wizard dialog box, 177–180
- main forms, 208–210
- many-to-many relationships between tables, 202
- Maximize button, 7, 86
- .MDB extensions, 39, 53
- memo fields, 48
  - exempted from sorts, 100
- Menu bar, 7
  - grayed-out options, 6, 8
- menus
  - how to choose options from, 8
  - Query, 115, 119
  - Record, 100, 104, 106, 148
  - View, 115, 116, 150, 196
  - *See also* Edit menu; File menu; Format menu
- Minimize button, 7
- modules, 14
- mouse
  - clicking, 8
  - double-clicking, 5
  - *See also* command summaries by operation
- mouse pointer
  - as arrow with question mark, 21
  - as box, 104
  - as double-headed arrow, 85
  - as open hand, 194
  - as pointing hand, 19
- move handles on control objects, 191–192
- multiple tables, 4, 37, 200–210
  - querying, 118–122

- naming
  - databases, 39
  - forms, 132
  - queries, 117
  - reports, 160
  - table designs, 54
  - table fields, 46
  - tables, 43
- navigating
  - forms, 143
  - in Help system, 18
  - specifying tab order for, 195
  - tables as datasheets, 67, 72–75
- New Database command (File menu), 38–40
- New Database dialog box, 39–40
- New Database toolbar button, 38
- New Form dialog box, 134
- New Form toolbar button, 138
- New Query button, 113–114
- New Query command (File menu), 118–119
- New Query toolbar button, 118–119
- New Report dialog box, 161
- New Table dialog box, 40–41
- New toolbar button, 69
- Next Record button, 74
- 92-93QuarterlySales file, 143
- 1993Orders file, 166
- 1993OrdersTabular file, 168, 197
- 1993OrdersTabularNew file, 200
- Norton, Peter, viii
- Number fields, 47, 48, 49
- number formats with field properties, 49, 50
- numbering field contents automatically, 43
- Num Lock key mode indication on Status bar, 7
- NWIND.MDB sample database, 11, 14

object buttons, 11–12
objects, opening, 11
OLE Object fields, 48
  exempted from sorts, 100
one-to-many relationships between tables, 202
one-to-one relationships between tables, 201–202
online help, 18
on/off (yes/no) fields, 48
Open Database button, 11
Open Database command (File menu), 9
Open Database dialog box, 9
open hand as mouse pointer, 194
opening
  existing databases, 11, 12
  existing forms, 16
  existing reports, 17
  File Manager, 27
  objects, 11
  tables, 11
  Table Wizard, 41
  See also starting
option buttons, 10
Oranges file, 120
OrdersByYearAndFruit file, 172
OrdersMainForm file, 210
OrdersSubform file, 210
Orders table. *See* BFOrders table
OrderSummary file, 176
OrdTypeQuant file, 155
orientation of reports (portrait or landscape), 163
orphan records, 202

page headers and footers, 190–191
Palette command (View menu), 196
Palette toolbar button, 193
parent/child records and tables, 202
Paste Append command (Edit menu), 72
pencil icon, 67, 73
phone number formats, 42, 48, 68
pointing hand mouse pointer, 19
portrait orientation of reports, 163
Post91Cust file, 117
Post93Orders file, 127
Post1991Cust file, 155
previewing
  forms, 149–150
  reports, 181–182
Previous Record button, 74
primary keys, 38
  specifying, 43–44, 52–53
primary tables, 201
Print command (File menu), 150
Print dialog box, 150
printing
  mailing labels, 181–182
  reports, 181–182
Print Preview command (File menu), 150
Print Preview toolbar button, 150
Print toolbar button, 150
Program Manager, 5
  for selecting tasks currently running, 27
properties of fields in tables, 47
  types of, 49–50

QBE grid, 166
queries, 13
  as Access objects, 13
  closing, 16
  Customer List, 16, 17
  designing, 112–113
  for multiple tables, 118–122
  saving, 115
  searching for help on creating, 22–24
  setting up, 113–118
Query Design command (View menu), 115
Query Design window, 113
Query menu
  Add Table command, 119
  Run command, 115
Quick Sort, 100–103
Quick Sort command (Records menu), 100
quitting. *See* exiting

radio buttons, 10
records, 3
  current, 66, 73
  orphan, 202
  referential integrity for, 202–203
Records menu
  Apply Filter/Sort command, 106, 148
  Edit Filter/Sort command, 104, 148
  Quick Sort command, 100
referential integrity for records, 202–203
related tables, 44, 201
Relationships command (Edit menu), 207
Relationships toolbar button, 204
Relationships window, 203, 205–206
Replace dialog box, 83–84
replace operations, 80–84
Report object button, 190
reports, 13, 157
  as Access objects, 13
  Alphabetical List of Products, 17
  closing, 17
  creating single-column with Report Wizards, 160–165
  creating summary, 174–176
  creating tabular with Report Wizards, 165–168
  creating with AutoReport Wizard, 157–160
  creating with Groups/Totals Wizard, 168–174
  fonts for, 198
  headers and footers for, 190
  mailing labels, 176–181
  modifying in Design view, 189, 197–200
  opening existing, 17
  page headers and footers for, 190–191
  previewing and printing, 181–182
  saving, 160
  sections of, 190
  viewing lists of, 11
Report Wizards dialog box, 161–162
required (table field property), 50
Restore button, 7
reverse video, 75
rows
  adding, 56
  height adjustments, 86
  as records, 15
  See also fields in tables
Run command (Query menu), 115
Run toolbar button, 115

SAMPAPPS directory, 11
SAMPLE.MDB file, 70–71
Save As command (File menu), 54
Save As dialog box, 54
Save command (File menu), 53
Save Query As command (File menu), 117
Save Query command (File menu), 116
Save toolbar button, 53
saving
  as automatic, 70
  designs for tables, 53
  queries, 115
  reports, 160
  tables, 53–54
screens
  Microsoft Access Help Contents, 18
  Tables help, 19
  Welcome, 6
Search command (Help menu), 22–24
Search dialog box, 22
searching
  and replacing data, 80–84
  for specific topics for help, 22–24
selecting
  control objects on forms or reports, 191
  as extracting subsets of data, 99
  fields, records and columns, 75–76
  options from menus, 8
  and "unselecting," 75
selection criteria for filtering records, 103, 107–112
Set Primary Key command (Edit menu), 52
Set Primary Key toolbar button, 52
Shift+ key combinations
  Shift+F1 for Help system, 21
  Shift+F2 for Zoom window, 79
  Shift+Tab key for navigating, 74
  Shift+Tab key for previous form field, 143
Show Columns command (Format menu), 88
Show Topics button, 23
single-column forms, 133–137
Single-Column Form Wizard dialog box, 135–136
single-column reports, 160–165
single number type, 49
Snap To Grid option, 193
Snap To Grid option (Format menu), 193
Social Security number formats, 50
Sort Ascending toolbar button, 100
sorting, 99
  by filtering, 103–112
  with Quick Sort, 100–103
  records with forms, 147–149
spreadsheets. *See* databases; datasheets
starting
  Access, 4–6
  Windows, 4–5
  See also opening
Status bar, 7
  descriptions of toolbar button functions, 10–11
  FLTR indicator in, 106
Student Data Disk
  containing objects of exercises, 58
  copying data from, 70–72
  described, VIII
subforms, 208–210
summary reports, 174–176

Tab key
  for navigating in datasheets, 67
  for next form field, 143
  for scrolling fields into view, 67
Tab key for navigating, 74
Table Design view, advantages over Table Wizard, 45
Table object button, 40
tables, 3
  as Access objects, 13
  BFCustomers, 42–43
  closing, 16
  creating in Table Design view, 45–53
  creating with Table Wizard, 40–45
  linking, 4
  modifying design of, 12, 54–58
  multiple, 4, 37, 200–210
  naming, 43
  navigating (as datasheets), 72–75
  opening, 11
  parent/child, 202
  primary and related, 201
  referential integrity for, 202–203
  relating, 44
  relationships between related, 201–202
  saving, 53–54
  saving designs for, 53
  viewing lists of, 11
  See also Customers table; data entry; Orders table
Tables help screen, 19
Table Wizard, 40–45
Table Wizard dialog box, 41
Tab Order command (Edit menu), 195–196
tab order specification for navigation, 195
tabular forms, 137–138
Tabular Form Wizard dialog box, 138–139
TabularOrders file, 186
tabular reports, 165–168
Tabular Report Wizard dialog box, 167–168
Task List (Windows program), 27
telephone number formats, 42, 48, 68
text boxes, 9, 10
text fields, 48
"There isn't enough space in the mailing label to fit all the lines..." message, 181
time formats with field properties, 49
Title bars, 7
toggle buttons, 198
toolbars, 7, 10–11
  See also toolbar buttons by name or function
Toolbox toolbar button, 193
ToolTips for help on functions of toolbar buttons, 10–11
totals on reports, 168–176
triangles
  as current record indicator, 66, 73
  on Access startup screen, 7
true/false (yes/no) fields, 48
TwoAcrossCustLabels file, 180
underlined phrases in help topics ("jumps"), 19
Undo command (Edit menu), 56
Undo Current Field/Record toolbar button, 78
Undo Saved Record command (Edit menu), 78
Undo toolbar button, 56, 78
Undo Typing command (Edit menu), 78
Unfreeze All Columns command (Format menu), 90
Unpaid Orders file, 122, 155, 186
UnpaidOrdersNameAddress file, 155
users, importance of consulting on database design, 35–36

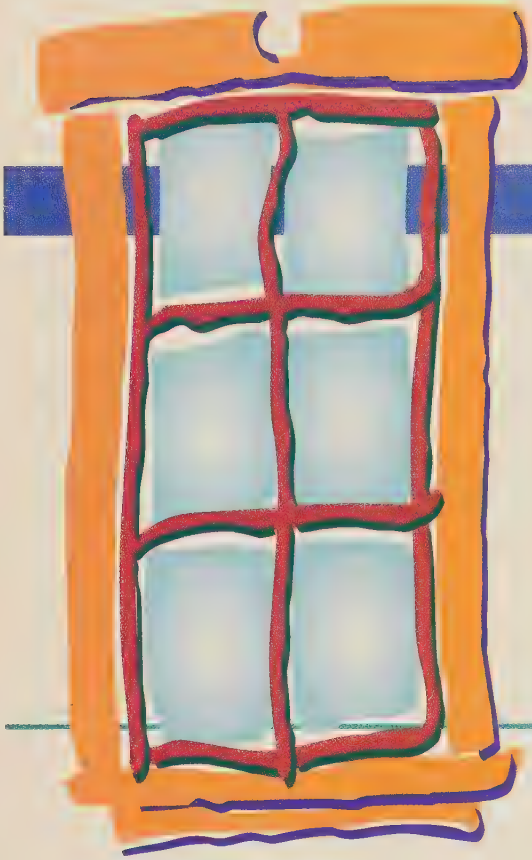
viewing
  in datasheet mode, 65
  in Design mode, 15
  list of objects, 11
  more columns with Maximize button, 86
  more of datasheets, 86–88
  in Query Design mode, 115
  See also forms
View menu
  Datasheet command, 116
  Form command, 150
  Palette command, 196
  Query Design command, 115
Welcome screen, 6
wildcard characters in searches, 84
windows
  closing, 160
  Database, 11–12
  Filter Design, 103–107
  Query Design, 113
  Relationships, 203, 205–206
  See also dialog boxes by name; screens
Windows program, starting, 4–5
Wizards, 23
  AutoForm feature, 130–133
  AutoReport, 157–160
  Form for Graph, 140–143
  Form for multiple tables, 208–210
  Form for single-column, 133–137
  Groups/Totals Report, 168–174
  Mailing Label, 176–181
  Summary Report, 174–176
  Tabular Form, 137–139
  Tabular Report, 165–168
WYSIWYG (what you see is what you get), 12

Yes/No fields, 48

ZIP code
  filtering on ranges of, 108, 111
  formats, 42, 48, 68
  sorting on, 102
Zoom toolbar button, 159
Zoom window, 79

MS OFFICE LESSON 3

INTEGRATING WORD, EXCEL, AND ACCESS DATA



LESSON 3

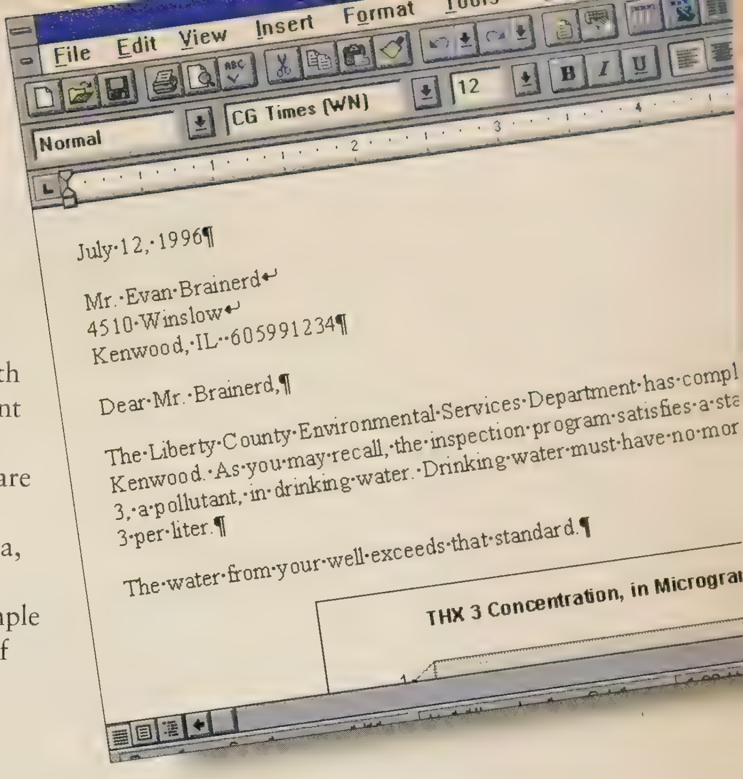
INTEGRATING WORD, EXCEL, AND ACCESS DATA

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Mail merge using information in Access.*
- *Explain the differences between a main document and a data source.*
- *Add merge fields to a Word document.*

Earlier you practiced sharing information between Word and Excel. In this lesson you will combine a letter in Word with an Access file on your Student Data Disk and then a graph from Excel. Although there are many uses for integrating Access, Word, and Excel data, this lesson—creating a mail merge—is a real-world example of the time-saving features of Office.



July·12,·1996¶

Mr.·Evan·Brainerd↵
4510·Winslow↵
Kenwood,·IL··605991234¶

Dear·Mr.·Brainerd,¶

The·Liberty·County·Environmental·Services·Department·has·compl
Kenwood.·As·you·may·recall,·the·inspection·program·satisfies·a·sta
3,·a·pollutant,·in·drinking·water.·Drinking·water·must·have·no·mor
3·per·liter.¶

The·water·from·your·well·exceeds·that·standard.¶

THX 3 Concentration, in Microgra

SPECIFY THE MAIN DOCUMENT IN WORD

By using an Access address file, a letter created in Word, and Word's mail merge feature, you can send the same letter to many different addresses without retyping the letter or the addresses. A mail merge combines a main document, such as a form letter, with a data source, such as an address file created using Access.

1. Start Word and open the WELLS_1.DOC document on your Lesson Disk.
2. Save the document as WELLS_2.DOC on the Lesson Disk.

   The WELLS_2.DOC letter is the main document. As shown in Figure 3-1 on the next page, notice that the letter has no inside address or saluation.

3. Select the Mail Merge command from the Tools menu.

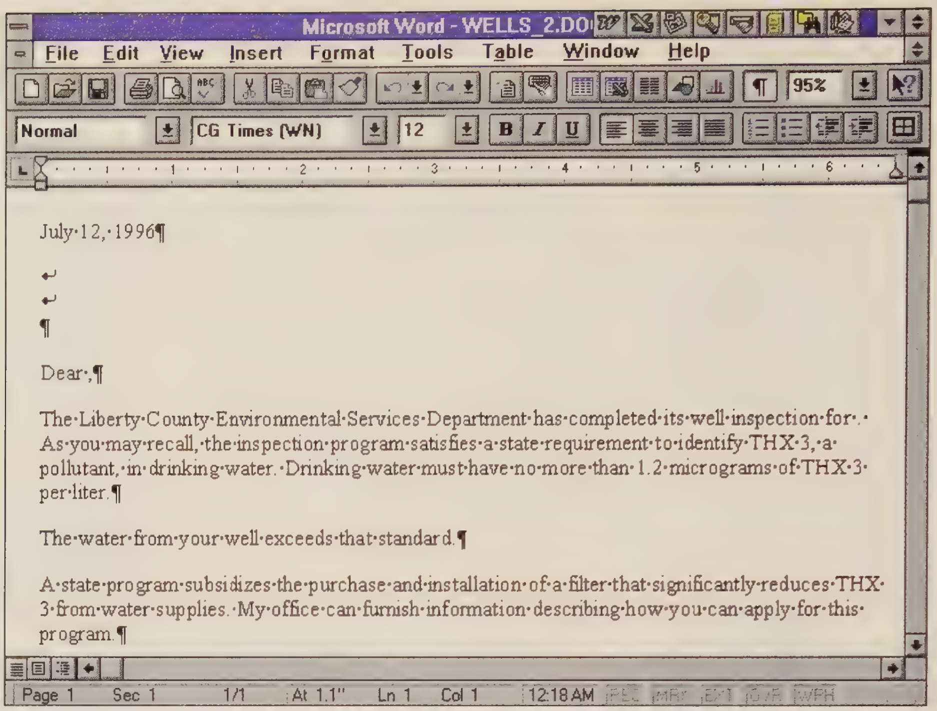
   The Mail Merge Helper dialog box appears, as shown in Figure 3-2 on the next page.

4. Click on the Create button.
5. Click on Form Letters.
6. In the dialog box that appears, click on the Active Window button.

   The Mail Merge dialog box reappears. This time an Edit button is beside the Create button.

FIGURE 3-1

The Mail Merge main document.


Microsoft Word - WELLS_2.DO
File Edit View Insert Format Tools Table Window Help
95%
Normal
CG Times (WN)
12
Page 1 Sec 1 1/1 At 1.1" Ln 1 Col 1 12:18 AM REC MRK EXT OVR WPH

July·12,·1996¶

↵
↵
¶

Dear·,¶

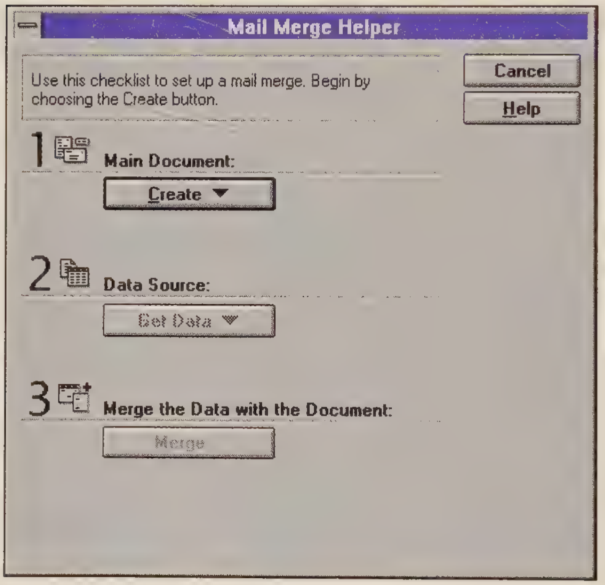
The·Liberty·County·Environmental·Services·Department·has·completed·its·well·inspection·for·.· As·you·may·recall,·the·inspection·program·satisfies·a·state·requirement·to·identify·THX·3,·a· pollutant,·in·drinking·water.·Drinking·water·must·have·no·more·than·1.2·micrograms·of·THX·3· per·liter.¶

The·water·from·your·well·exceeds·that·standard.¶

A·state·program·subsidizes·the·purchase·and·installation·of·a·filter·that·significantly·reduces·THX· 3·from·water·supplies.·My·office·can·furnish·information·describing·how·you·can·apply·for·this· program.¶

FIGURE 3-2

The Mail Merge Helper dialog box.



Use this checklist to set up a mail merge. Begin by choosing the Create button.

SPECIFY THE DATA SOURCE

Now you need to tell Word where to find the source of your data.

1. Click on the Get Data button.

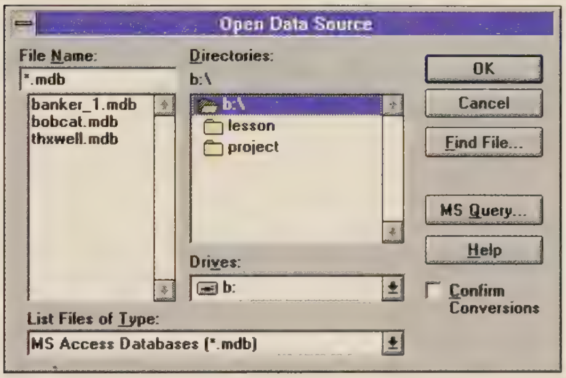
   A list of options appears.

2. Select the second option, Open Data Source.

   The Open Data Source dialog box opens, as shown in Figure 3-3.

FIGURE 3-3

The Open Data Source dialog box.



File Name: *.mdb

Directories: b:\

Drives: b:

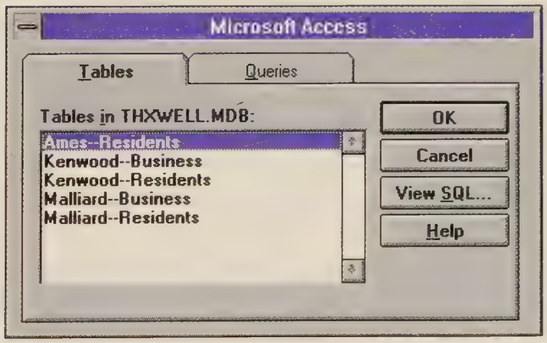
List Files of Type: MS Access Databases (*.mdb)

3. Double-click on the THXWELL.MDB database file on your Lesson Disk (you may need to select MS Access Databases in the List Files Of Type pull-down menu to see this file).

   After a moment, (as shown in Figure 3-4), a dialog box opens, showing the five tables available in the THXWELL.MDB database.

FIGURE 3-4

List of tables in THXWELL.MDB.



4. Double-click on Kenwood—Residents.

ADD MERGE FIELDS TO THE MAIN DOCUMENT

When you insert a merge field in the main document, you are telling Word where you want the database information printed in the letter. The merge fields are taken from the field names in the Kenwood—Residents table of THXWELL.MDB. Where you enter a merge field, Word will print, at that spot, information you select from the Access table.

TIP *When inserting merge fields into a main document, it is valuable to have paragraph marks and spaces displayed. You can display them by clicking the Show/Hide tool on the Standard toolbar.*

1. In the dialog box, click on the Edit Main Document button.

   The Mail Merge toolbar appears.

2. Click the mouse pointer to the left of the first new-line character (the bent arrow).
3. Click on the Insert Merge Field button.

   A list of merge fields appears.

4. Click on the fourth merge field name, Sal.

   Word inserts <<Sal>> in the main document.

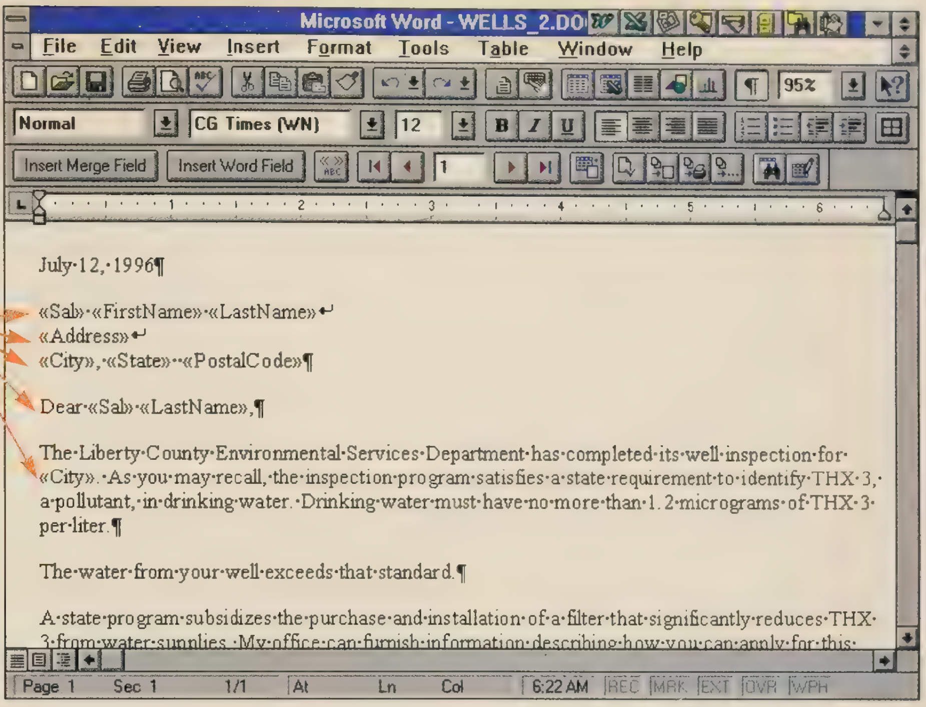
5. Add a space after the <<Sal>> merge field.

TIP *Without this space, the text printed by the merge fields would run together.*

6. Click on the Insert Merge Field button.
7. Click on the FirstName merge field.
8. Using the steps you have just practiced, continue adding merge fields until the WELLS_2.DOC resembles the document shown in Figure 3-5. Remember to add spaces between the merge fields, including a space and comma between the <<City>> and <<State>> merge fields and two spaces between the <<State>> and <<PostalCode>> merge fields.
9. Save the file to protect your work.

FIGURE 3-5

Merge codes in the Word document.


Microsoft Word - WELLS_2.DOC
File Edit View Insert Format Tools Table Window Help
95%
Normal
CG Times (WN)
12
Insert Merge Field
Insert Word Field
1
Page 1 Sec 1 1/1 At Ln Col 6:22 AM REC MRK EXT OVR WPH

July·12,·1996¶

«Sal»·«FirstName»·«LastName»↵
«Address»↵
«City»,·«State»··«PostalCode»¶

Dear·«Sal»·«LastName»,¶

The·Liberty·County·Environmental·Services·Department·has·completed·its·well·inspection·for·«City».·As·you·may·recall,·the·inspection·program·satisfies·a·state·requirement·to·identify·THX·3,·a·pollutant,·in·drinking·water.·Drinking·water·must·have·no·more·than·1.2·micrograms·of·THX·3·per·liter.¶

The·water·from·your·well·exceeds·that·standard.¶

A·state·program·subsidizes·the·purchase·and·installation·of·a·filter·that·significantly·reduces·THX·3·from·water·supplies.·My·office·can·furnish·information·describing·how·you·can·apply·for·this·

Make sure you have inserted all these merge codes.

COPY AN EXCEL GRAPH ONTO THE CLIPBOARD

Now that the merge fields have been inserted, you are ready to add the information contained in an Excel graph.

1. Start Excel by clicking the Excel button in the Office Manager toolbar.
2. Open the WATRUSE4.XLS workbook on your Lesson Disk.
3. Click anywhere on the chart in Sheet 1.

   Handles appear on the graph.
4. Click on the Copy button.

   The graph is copied to the Clipboard.
5. Close the WATRUSE4.XLS workbook without saving it.

PASTE AN EXCEL GRAPH INTO THE WORD DOCUMENT

To copy the graph into the Word form letter:

1. Switch to Word by clicking the Word button in the Office Manager toolbar.
2. Position the cursor at the end of the second paragraph.
3. Press Enter.

4. Click on the Paste button.

   The graph is pasted into the document.

5. Center the graph on the page.

COMPLETE THE MAIL MERGE

Now you are ready to complete the mail merge. First, however, you will select an option that checks for mail merge errors.

1. Click on the Check For Errors button.

   A dialog box appears listing three options for checking for mail merge errors. Make sure the second option is selected.

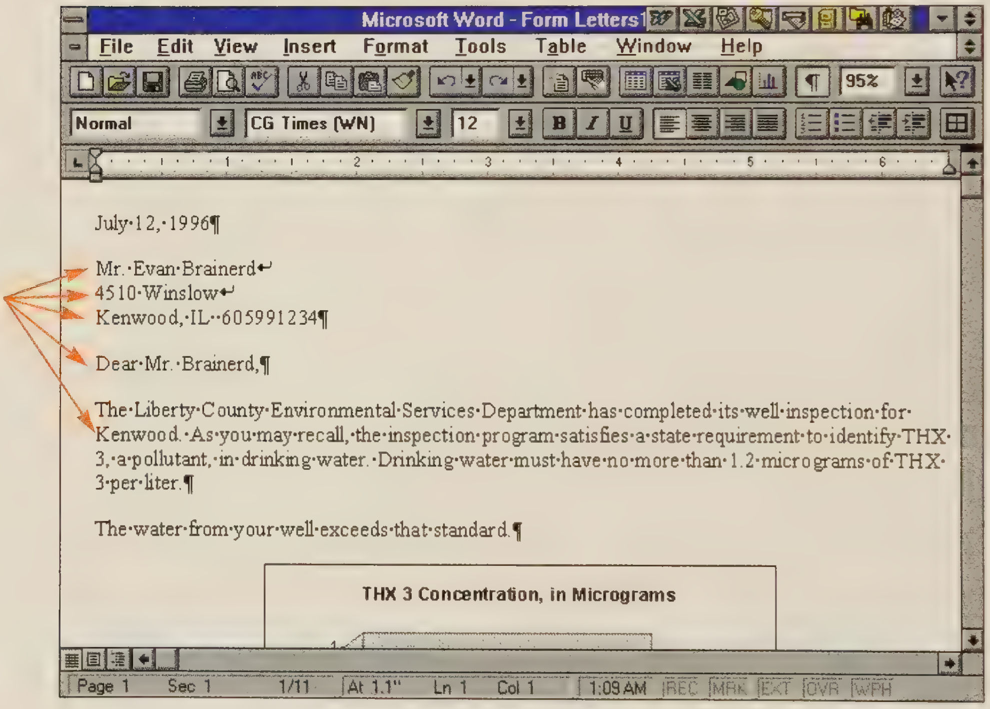
2. Click on the OK button.

   A new letter appears, FORM LETTERS1.

   As shown in Figure 3-6, the merged fields have been replaced with information from the Kenwood–Residents table of the THXWELL.MDB file.

FIGURE 3-6

The merged document.



Data from Access has replaced the merge fields.

July·12,·1996¶

Mr.·Evan·Brainerd↵
4510·Winslow↵
Kenwood,·IL··605991234¶

Dear·Mr.·Brainerd,¶

The·Liberty·County·Environmental·Services·Department·has·completed·its·well·inspection·for·Kenwood.·As·you·may·recall,·the·inspection·program·satisfies·a·state·requirement·to·identify·THX·3,·a·pollutant,·in·drinking·water.·Drinking·water·must·have·no·more·than·1.2·micrograms·of·THX·3·per·liter.¶

The·water·from·your·well·exceeds·that·standard.¶

3. Scroll through the document.

   There are 11 merged letters, one for each record in the Kenwood–Residents table.

4. If your instructor has asked you to print the merged letters, do so now. If not, close the FORMLET1.DOC file.

5. Save the changes to the WELLS_2.DOC file and close it.

The process you have just learned can save you many hours. Consider the amount of effort required to enter addresses for, say, 500 customers. If you needed to send letters frequently to these people, you could literally spend all your time retyping the addresses. With the mail merge feature, you enter the addresses only once, storing them in a data file. You can then create form letters anytime you wish with a minimum of effort. With the query features in Access, you can even print subsets of the customer file. For example, you could create a query that limits the customer list to customers in a specific ZIP code, then print letters to only those customers. In the end you'll find that, once the data file is set up, the most time consuming part of creating form letters is simply printing them out.

APPLICATION PROJECTS
INTEGRATING WORD, EXCEL, AND ACCESS DATA

Projects 1 through 5 result from your job in the Liberty County Environmental Services Department. Sample files for these exercises are located on the Project Disk. Use the Project Disk to save new files created in these exercises. Perform the following actions to complete these projects:

1. Open the WELLS_1.DOC file on your Project Disk. You will use this file to send notices of well contamination to Kenwood businesses. You will use the Kenwood–Businesses table in the THXWELL.MDB file to complete the mail merge. The Kenwood–Businesses table contains only business names, addresses, and telephone numbers, so you will need to edit the WELLS_1.DOC file to eliminate references to persons. Save the edited letter as WELLS_4.DOC in the Project Disk. Make sure to check for mail merge errors as you complete the mail merge. If your instructor has asked you to print a merged letter, do so now. Do not save the result of the merge.

2. Although most of the information gathered by Liberty County well inspectors is maintained in an Access database, two Environmental Services Department field offices maintain the information in an Excel spreadsheet. For this project, you will use the INSPEC_1.XLS spreadsheet and the WELLS_1.DOC main document to create a letter to be sent to the residents of Ranson. If your instructor has asked you to print a merged letter, do so now. Do not save the result of the merge.

   Open the WELLS_1.DOC file and save it as WELLS_5.DOC on the Project Disk. In the Mail Merge Helper, choose the Open Data Source option. Click the Confirm Options check box in the Open Data Source dialog box, select the INSPEC_1.XLS file, and then click the OK button. In the Confirm Data Source dialog box, select the Microsoft Excel Worksheet via Converter option, and then click OK. In the Open Workbook dialog box, select the Ranson worksheet, and then click the Open button. In the Open Worksheet dialog box, select Entire Worksheet, and then click the Format for Mail Merge check box. Click the Edit Main Document button in the next dialog box. Now set up the merge fields in the letter and save the changes to WELLS_5.DOC. Merge to a new document. If your instructor has asked you to print the merged letter, do so now. Close all of the files. Do not save the result of the merge.

3. The director of the Environmental Services Department wants the letters you send to Cleary residents to be more friendly than the others. So you decide to add more merge fields in an effort to personalize the letter. In this project, you will exploit one great advantage of a merge field—it can be used more than once in a main document.

   Open the WELLS_1.DOC file and save it as WELLS_6.DOC on the Project Disk. Use the same merge technique you used in the previous project, but select the Cleary worksheet in the INSPEC_1.XLS file to provide the data you require to complete the letter. Add the <<Sal>> and <<LastName>> merge fields to the second sentence, immediately after "As you may recall". Add the <<Sal>> and <<LastName>> merge fields to the second text paragraph, immediately after "The water from your well". (Hint: Be sure to place commas before the <<Sal>> merge field and after the <<LastName>> merge field.) Add a final pair of merge fields after the fifth text paragraph, immediately after "If you will contact my office". Make sure that you add a comma after the second merge field. If your instructor has asked you to print the merged letter, do so now.

4. The inspectors in the Cleary-Ranson-Ames field office are conducting some follow-up inspections. Because they will be in the Ames area already, they want to pass out the warning letters to Ames residents personally. First, however, they must add several Ames residents to the Environmental Services Department database. Unfortunately, the field office does not have Access running on its computers. So, to give the field office the ability to use the database information, you decide to copy the information to Excel. That way your data remains safely in Access, but the inspectors can create form letters. Later they will return their new data to you.

   Open the THXWELL.MDB on your Project Disk and select the Ames—Residents table from the database window. When the table is displayed, highlight all the fields by clicking on the first, unmarked field selector in the upper-left corner of the table. Then copy the data to the Clipboard. Open the AMES.XLS file from your Project Disk. Highlight cell A1 in the AMES.XLS worksheet. Paste the Access information into the Excel spreadsheet. Although some field widths need to be adjusted, the new information closely resembles the same material in Access. Open the WELLS_6.DOC file on the Project Disk. Save it as WELLS_7.DOC. Complete a mail merge, using the WELLS_7.DOC letter and the AMES.XLS spreadsheet. Save both files under their present names. If your instructor has asked you to print a merged letter, do so now. After you finish printing, close all documents.

5. The director of Environmental Services asks you to send a letter to the Liberty County Health Services Department. Health Services wants a comparison of the number of residents in each town with wells contaminated by THX3. You decide to create a chart using the names and addresses contained in the THXWELL.MDB database and the AMES.XLS and INSPEC_1.XLS spreadsheets. Because your final product is a chart, you decide to copy the information to the INSPEC_1.XLS spreadsheet. You create a worksheet for each city's data. Using Excel's functions, you count each resident for each city, compiling the totals in a single chart stored in a separate worksheet in the INSPEC_1.XLS file. Write a letter to Mark Lombowski, the new director of Health Services, noting that your comparison of residents in each town with contaminated wells is in the form of a chart. Save the letter as HEALTH_1.DOC on the Project Disk. If your instructor has asked you to print this letter, do so now. After you finish printing, close all documents.

6. You work in the sales office of Vita Real Vitamins. You are in charge of creating sales letters, which the company's sales manager sends to customers. There are two kinds of letters. One letter is sent to prospective customers. The other is sent to current customers, after they have placed their latest order with Vita Real. This project concerns letters to prospective customers.

   Your goal is to upgrade Vita Real's correspondence. First, you need to create a new letter in Word; then, you need to chart sales information in Excel and link that chart to the Word letter. The letter should be called NEWBUY.DOC, and the worksheet should be called VITA_1.XLS. Name a blank worksheet New Client. This is where you will store the information you will eventually chart.

   Use the following information to create the letter. Vita Real has been marketing vitamins for 47 years. It is the largest vitamin distributor in Oregon and has been for four years. The company slogan is "Health Is Priceless." Vita Real's two closest competitors are Natural Ray's Vitamins and Bountiful Harvest Vitamins. Your letter should include the sales angle that not only is Vita Real the market leader, but also that the Oregon Health Merchandise Association has rated Vita Real No. 1 in customer service. Vita Real's corporate address is 9000 Balm Road, Gresham, OR 97080. The letter will be signed by Jacob Apicella, Sales Manager. Include a sentence explaining that every customer is important to Vita Real. Include another sentence asking the customer to call Mr. Apicella directly if there is ever a problem that the customer's regular salesperson cannot resolve. Integrate clip art and the company slogan into the letterhead for this letter. Do not worry about including names and addresses. These will be added later.

Create the chart based on the following information. In the Oregon vitamin market, Vita Real holds 42 percent of the market, Natural Ray's holds 27 percent, and Bountiful Harvest holds 21 percent. Several companies share the remaining 10 percent. Finally, include one more chart in the letter, based on the following information. This is the average price for the most common vitamins sold in Oregon, broken down by vitamin company. Use the information you believe is most effective.

VITAMIN	QUANTITY	VITA REAL	NATURAL RAY'S	BOUNTIFUL HARVEST
A	100	$5.29	$5.49	$5.19
B^6	100	$4.99	$5.29	$5.09
B^{12}	100	$5.99	$5.99	$5.99
C	200	$2.19	$2.29	$2.29
E	100	$3.39	$3.19	$2.99
Calcium	100	$4.29	$4.30	$4.25

If the letter runs more than one page, make sure the company name and address appear on every page. After you have completed the letter, save it and its linked spreadsheet. If your instructor has asked that you print the letter, do so.

7. Now you will create the second letter, which is sent to current customers after they have placed their latest order. You can base this letter on the letter you completed in project 6. Save the NEWBUY.DOC document as CURBUY.DOC. You will use the VITA_1.XLS spreadsheet to chart information for this letter as well. Create a new worksheet named Current Client.

   Rewrite the text of the letter so that the emphasis is not on vitamin prices, as much as Vita Real's service to its customers. Remove the vitamin cost comparison chart and replace it with a chart based on the following information.

   CUSTOMER SATISFACTION

CUSTOMER RATING	VITA REAL	NATURAL RAY'S	BOUNTIFUL HARVEST
Sales Courtesy	A	B	C
Catalog	B	C	A
Timely Delivery	A	C	B
Response Time	C	A	B

   Save the files under their current names. If your instructor has asked that you print the letter, do so.

8. Vita Real is weighing the pros and cons of distributing its vitamins in Washington. The sales manager has asked you to help him create a presentation to the senior sales staff. To begin this process, you are asked to research a dozen health food stores. They should be from the Washington cities of Spokane, Tacoma, and Seattle. Your research must include the complete business name, the complete business address, and the business' telephone number. Just as important, your research should include the name and telephone number of the person who buys vitamins for the store. As you do your research, begin formulating an outline. This outline, which you will create in Word, will be the basis of your presentation. So even at this point, begin thinking how you will display your information on slides. Create any information you need to complete this project.

   Because Vita Real Vitamins does not currently use Access, you will need to compile the information (which resembles the Kenwood–Businesses table) in Excel. When you create the outline in Word, you are ready to communicate it to the Vita Real sales manager. Using your knowledge of how Office applications interact, copy the Excel data and paste it into Word. (The sales manager does not mind if your information is printed on a landscape page.) Reformat the Excel data as necessary, using Word's table formatting tools. The sales manager also wants one or two charts that you choose to include in the completed presentation. He suggests using the charts used in the CURBUY.DOC file (completed in the previous Application Project section). Save your draft letter as VITOUT.DOC. Be sure to save your Excel file as WASHING.XLS on the Project Disk. If your instructor has asked you to print this letter, do so now. After you finish printing, close all documents.

Projects 9 and 10 concern your work with Grand Photo Lab.

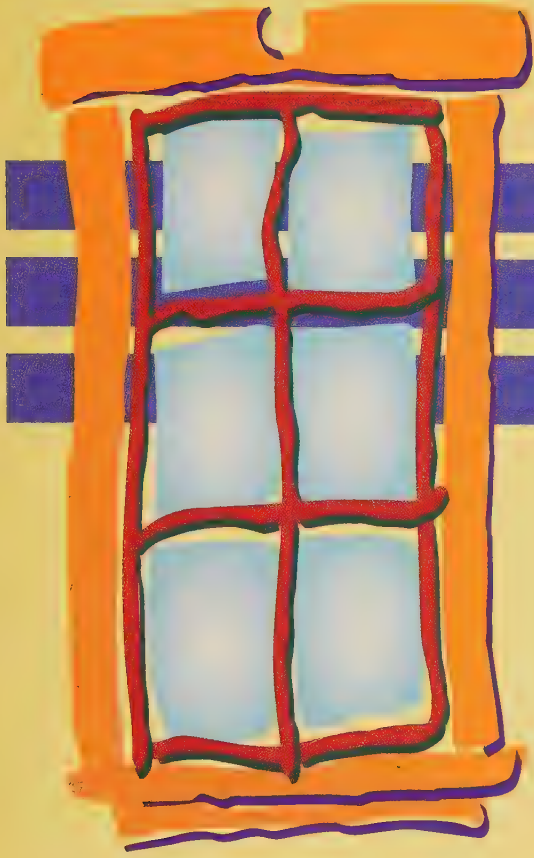
9. Grand Photo Lab wants to add a third store in the neighboring community of River Bend, Nebraska. Next month it will be hosting a meeting with local bankers, part of Grand Photo Lab's efforts to secure financing for the new store. You will create a two-page letter detailing why Grand Photo Lab is a good risk for financing.

Begin by creating an outline based on the information given next. The outline should be simple, with no more than two subsections per section. Save the outline as OUTLINE.DOC on the Project Disk. Then create a letter and name it FINANCE.DOC. Save this letter, also on the Project Disk. Create a new spreadsheet and name it FINANCE.XLS. You will use the following information to create three charts. Every aspect of the meeting with the bankers is being changed daily, so you will want to link the worksheet information with the resulting charts.

Grand Photo already has two successful stores. One is in Grand Island and the other is in Elk Hills. Business for each store has increased over the last three years, an impressive feat because photography sales have shown no rise nationally over that time. From 1993 to 1995, sales in the Elk Hills store rose 11 percent. Sales in the Grand Island store rose 9 percent. One of the assets of the stores is that they have more square footage than their competitors. The Grand Island store has 3,400 square feet. The Elk Hills store has 2,990 square feet. The average square footage for a photo lab/photography retail outlet in Nebraska is 2,490 square feet. Another advantage of Grand Photo Lab is its use of state-of-the-art technology. Grand Photo Lab anticipates that compact-disk-stored images will be a major market within the next several years. Consequently, both Grand Photo Labs have equipment to do onsite storage of customer photos on compact disk. Both stores also have equipment to show customers photo compact disks on site, allowing customers the opportunity to order copies of the compact disk at the point of sale. This is one reason that Grand Photo Lab has more return customers than any other photo lab/photography retail outlet in Nebraska. Grand Photo Lab receives repeat business from 87 percent of its customers, significantly higher than Olympic Photo's 79 percent and Erganian Photo's 73 percent. Create any other information you need to complete the letter or the chart. When you have completed the letter, save it, the spreadsheet, and the outline under their current names. If your instructor has asked that you print the letter, do so.

10. As part of your work preparing for Grand Photo Lab's meeting with local bankers, you have compiled a list of those bankers who would be the most likely to attend. This list, named BANKER_1.MDB on your Project Disk, contains a dozen bankers, including their names and addresses.

To encourage the attendance of local bankers, the Grand Photo Lab finance department asks that you use your information to create a questionnaire for the bankers. Use your knowledge of Word's table features, and merge fields to create a questionnaire that can be personalized, yet asks the same questions of each banker. You have already received several suggested questions. The finance department wants to know if the bankers are familiar with Grand Photo Lab. That way they can better respond to the bankers' questions. The photo equipment staff suggests that you ask each banker if he or she is interested in photography. The questionnaire should ask ten questions. Because lunch will be served during the meeting, someone suggests that you ask the bankers what they would like to eat for lunch. You might also poll them on what time of the afternoon is best for the meeting. The questionnaire should also include the date of the meeting and the Grand Photo Lab office address and telephone number. When you have completed the questionnaire to your satisfaction, you will insert merge fields at the top of the document. The fields will print the name and address of the banker—a precaution in case the addressed envelope is lost. In an effort to personalize the document, try to have each banker's name appear in two or three places on the questionnaire. Save the questionnaire as QUEST_1.DOC on the Project Disk. If your instructor has asked you to print the questionnaire, do so now. After you finish printing, close all documents.



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A TUTORIAL TO ACCOMPANY PETER NORTON'S INTRODUCTION TO COMPUTERS

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CONTENTS

Preface, v

LESSON 1
POWERPOINT BASICS 2

Objectives, 2
Using a Presentation Program, 3
Starting Microsoft PowerPoint, 5
Identifying the Parts of the PowerPoint Window, 9
    Understanding the Menu Bar, 10
    Saving Time with Toolbars, 10
Viewing a PowerPoint Presentation, 11
    Switching Among Views, 11
    Understanding Subtitle Indents, 13
Finding Help, 18
Spell Checking a Presentation, 21
Printing a Presentation, 21
Saving a Presentation, 22
Quitting PowerPoint, 23
Command Summary, 24
Matching Exercise, 25
Multiple-Choice Questions, 26
Short-Answer Questions, 28
Application Projects, 28

LESSON 2
CREATING A NEW PRESENTATION 30

Objectives, 30
Using the AutoContent Wizard, 31
Beginning with the Pick a Look Wizard, 43
Beginning with a Blank Presentation, 47
Using Clip Art To Add Emphasis, 51
Adding Objects to a Presentation, 55
Command Summary, 57
Matching Exercise, 57
Multiple-Choice Questions, 58
Short-Answer Questions, 60
Application Projects, 61

LESSON 3
WORKING WITH SLIDE MASTERS 64
Objectives, 64
What Is a Master?, 65
Why Use Masters?, 66
Editing the Slide Master, 66
Using the Slide Master to Add Repeating Elements, 73
Overriding the Slide Master, 78
Command Summary, 82
Matching Exercise, 83
Multiple-Choice Questions, 83
Short-Answer Questions, 85
Application Projects, 86

LESSON 4
ADDING GRAPHS, TABLES, AND ORGANIZATION CHARTS 88
Objectives, 88
Inserting a Graph, 89
Adding Tables, 96
Inserting an Organization Chart, 99
Command Summary, 104
Matching Exercise, 105
Multiple-Choice Questions, 105
Short-Answer Questions, 107
Application Projects, 107

LESSON 5
PRODUCING YOUR PRESENTATION 110
Objectives, 110
Printing Your Presentation, 111
Producing a Presentation, 116
Command Summary, 127
Matching Exercise, 127
Multiple-Choice Questions, 128
Short-Answer Questions, 130
Application Projects, 130

GLOSSARY 133

INDEX 136

PREFACE

This *Microsoft PowerPoint for Windows Tutorial* is one of the instructional tools that complement *Peter Norton's Introduction to Computers.* Glencoe and Peter Norton have teamed up to provide a new approach to computer education, one not reflected in traditional computer textbooks. The text and its ancillary materials are grounded in the philosophy that knowledgeable, empowered end users will provide the gains in productivity that both businesses and individuals need in the 1990s and beyond. Mere button pushing is not enough; in order to handle increasingly complex computer tasks, both in the workplace and in the home, computer users must understand the concepts behind their computer hardware and software.

STRUCTURE AND FORMAT OF THE MICROSOFT POWERPOINT FOR WINDOWS TUTORIAL

This book exposes you to a range of functions and techniques. You will be given the opportunity to perform these functions several different ways. You will see that Microsoft Powerpoint for Windows can adapt to the way you want to work, rather than your adapting to it. Because Microsoft PowerPoint for Windows is such a rich program, practicing new functions and techniques is an important part of your work. To help you practice, each lesson includes the following:

- *Explanations of important concepts.* Each section of each lesson begins with a quick explanation of the concept or software feature being covered. The explanations help you understand "the big picture" as you learn each new facet of the program.
- *New terms in boldface.* An important part of learning about computers is learning the terminology. Each new term in the text is set in **boldface** and defined the first time that it is used. As you encounter these words, read their definitions carefully. If you encounter the same word later and have forgotten its meaning, you can look it up in the Glossary at the back of the book.
- *Step-by-step instructions.* Because most students learn best by doing, each explanation is followed by a concise set of steps, which you complete at the computer. As you perform the steps, you will be creating and modifying real Microsoft PowerPoint for Windows documents.
- *Many illustrations.* As you work through the tutorial, you will find many figures to help you stay on track. The figures are used to point out features on the screen and illustrate what your screen should look like after important steps are completed.

- *Command summaries.* At the end of each lesson, there is a Command Summary that reviews both mouse and keyboard techniques for completing each task covered in the lesson. Where toolbar buttons are available, they are also included in the Command Summary.
- *Review exercises.* Following the Command Summary, you will find three types of objective questions: a matching exercise, multiple-choice questions, and short-answer questions. Completing these exercises will help you make sure that you have learned all the concepts and skills that have been covered in the lesson.
- *Application projects.* The last element in each lesson is a set of Application Projects that can give you extra hands-on practice using your problem-solving skills and the techniques you have learned in the lesson to create or modify real Microsoft PowerPoint for Windows presentations.
- *Glossary and Index.* At the back of the book, there is a Glossary and an Index. Use the Glossary to look up terms that you don't understand and the Index to find specific information in the book.
- *Student Data Disk.* Attached to the inside back cover of this book you will find a 3½" disk called the Student Data Disk. This disk contains Microsoft PowerPoint for Windows files that you will use to complete the step-by-step and hands-on exercises in the book. You should make a copy of this disk immediately.

After you complete this book, you will have the skills necessary to create, process, and present information in a variety of ways using Microsoft PowerPoint for Windows.

ABOUT PETER NORTON

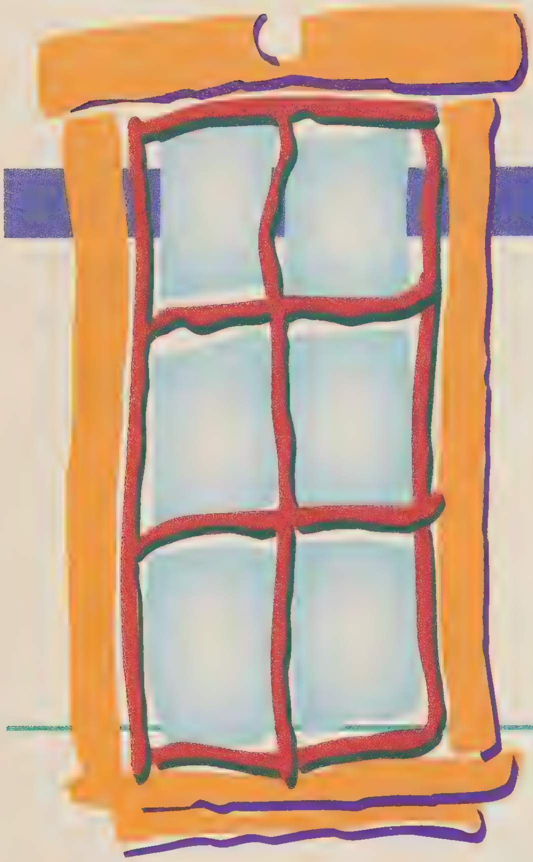
Peter Norton is a pioneering software developer and author. Norton's *Desktop for Windows*, *Utilities*, *Backup*, *AntiVirus*, and other utility programs are installed on millions of PCs worldwide. His *Inside the IBM PC* and *DOS Guide* have helped millions of people understand computers from the inside out.

Glencoe has teamed up with this trusted name in computers to help you better understand the role computers play in your life. You may use this resource as a textbook now and a reference book later as you begin your productive use of computers in your chosen profession.

REVIEWERS

Many thanks are due to Don Busche, Saddleback College; Mark Hall, Community College of Spokane; and Mary Louise Kelly, Palm Beach Community College; who reviewed the manuscript and gave advice on how to improve the book.

MICROSOFT POWERPOINT FOR WINDOWS



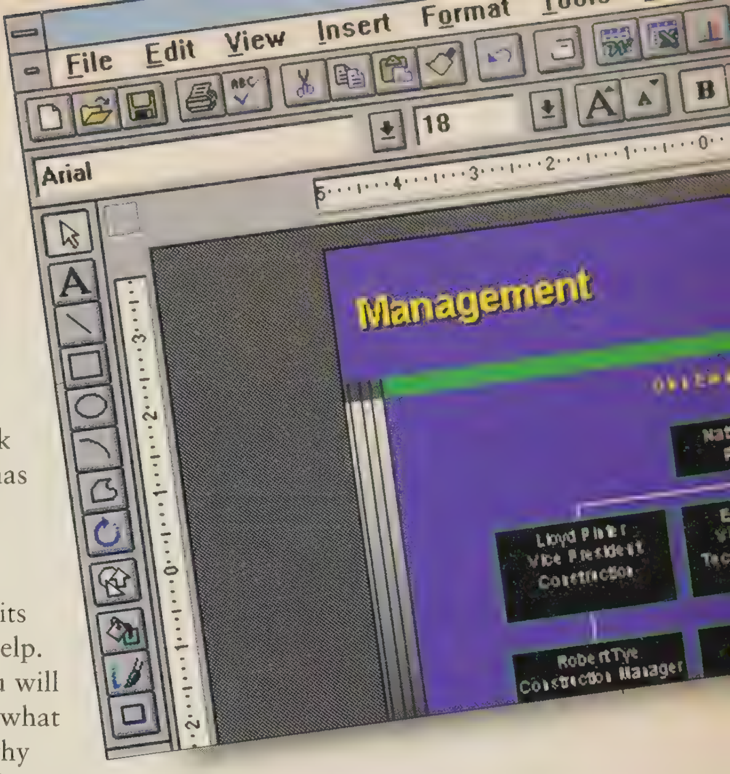
LESSON 1

POWERPOINT BASICS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Explain what a presentation is and the advantages a presentation has over text documents.*
- *Open an existing presentation.*
- *Navigate through an existing presentation using several PowerPoint views.*
- *Rearrange a presentation using Slide Sorter view.*
- *Use the Help feature to get information about items on screen or search Help for a topic.*
- *Save a PowerPoint presentation under its existing name or a new name.*
- *Print a presentation.*



The purpose of this lesson is to help you understand what a presentation is and how Microsoft's presentation manager, PowerPoint, works. To do that, you will open and work with a presentation, which has been stored on your Student Data Disk. After exploring PowerPoint's essential tools, you will also learn the benefits of PowerPoint's on-screen Help. By the end of the lesson, you will have a much better sense of what a presentation can do and why PowerPoint is such a valuable tool.

USING A PRESENTATION PROGRAM

Presentations are composed of a series of images shown on a computer, slide projector, or overhead projector. These images are called **slides**. Presentations are created for many reasons: launching a sales campaign, reporting on the progress of a project, introducing a new policy, describing changes in a company's organization chart, or lecturing in a classroom.

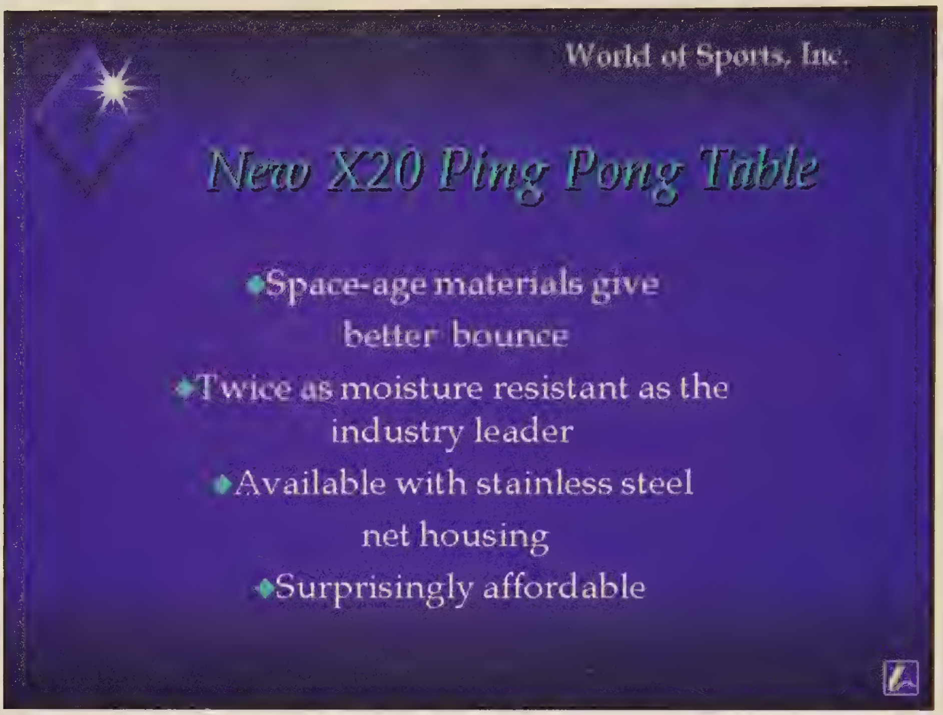
But why go to the trouble of creating a presentation? Why not simply relay information by handing out pages of text?

Research shows that when people see and hear material simultaneously, they are much more likely to remember that material—more likely than if they had only read it. For this reason, a well-made presentation has a stronger impact than text pages because a presentation communicates through two channels, not one. The audience hears the material as spoken by the presenter, and the audience sees the material as presented by the slides.

To keep an audience listening and watching, a **presentation program**, such as PowerPoint, relays information with a variety of tools. PowerPoint supplements its text with animation, charts, clip art, pictures, shapes, and even sounds. Thanks to these options, an effective presentation requires fewer words than an effective text document. For example, suppose you work for World of Sports, a company that makes sporting equipment. World of Sports has just developed a new ping pong table, and you are presenting the product to a group of retailers—people who own sporting goods stores. You want the retailers to buy your ping pong tables and sell them to customers. Figure 1-1 shows three slides from the presentation you have developed.

Slide 1 summarizes the features of the ping pong table.

FIGURE 1-1
Three slides from a sales presentation.

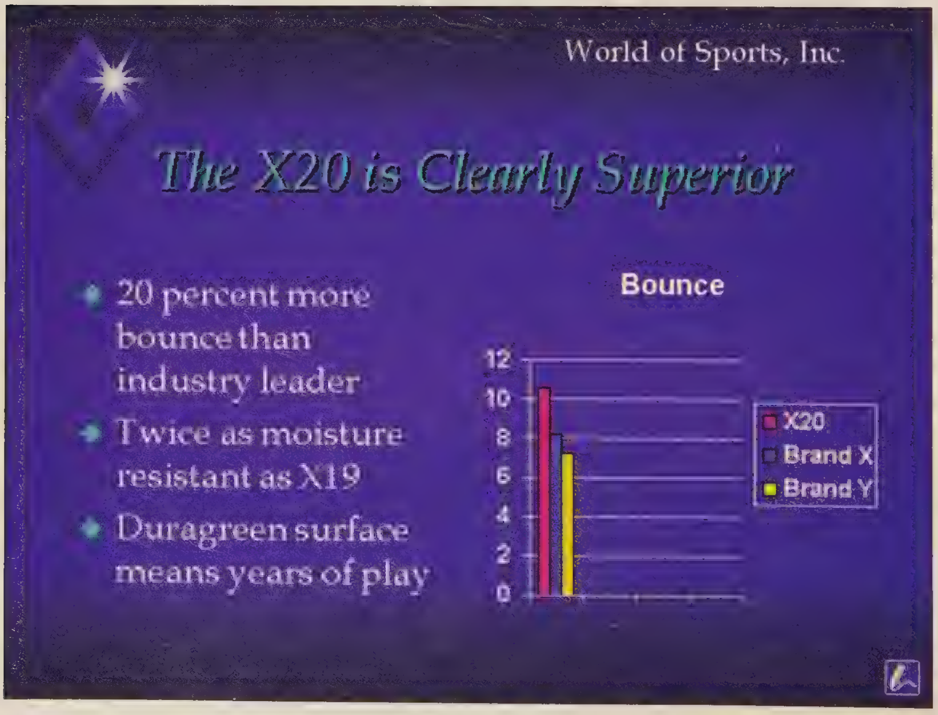


World of Sports, Inc.

New X20 Ping Pong Table

- Space-age materials give better bounce
- Twice as moisture resistant as the industry leader
- Available with stainless steel net housing
- Surprisingly affordable

Slide 2 expands the first two bulleted points on slide 1. Notice the chart (created in PowerPoint) integrated into this slide.

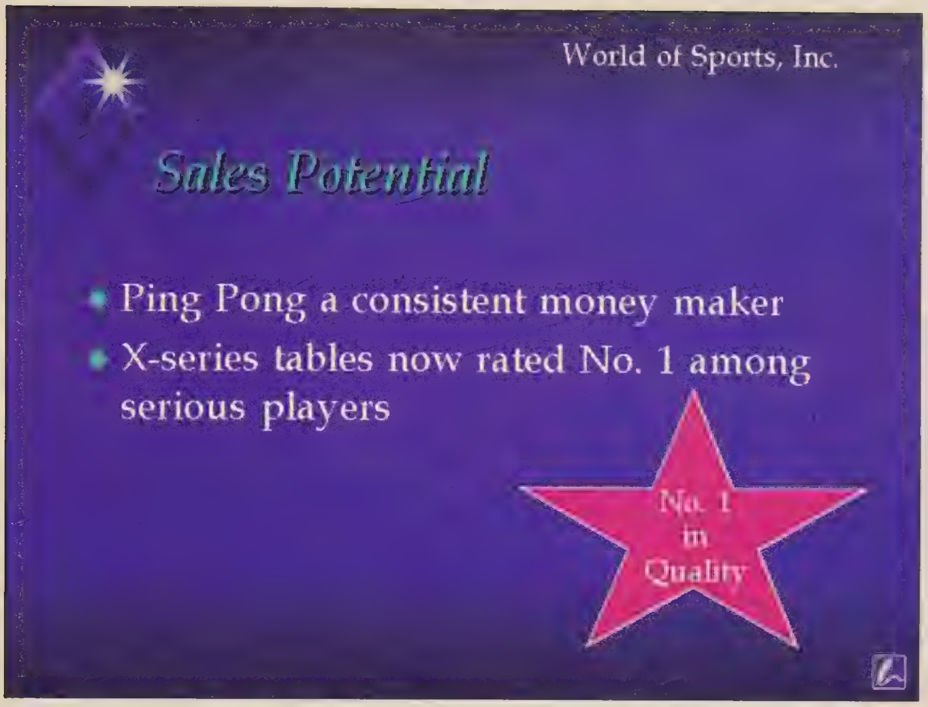


World of Sports, Inc.

The X20 is Clearly Superior

- 20 percent more bounce than industry leader
- Twice as moisture resistant as X19
- Duragreen surface means years of play

Slide 3 introduces a new topic—sales potential. Notice that the phrase "No. 1 in Quality" has been placed inside a star-shaped object on this slide.



World of Sports, Inc.

Sales Potential

- Ping Pong a consistent money maker
- X-series tables now rated No. 1 among serious players

No. 1 in Quality

NOTE *The icon displayed in the lower-right corner of the Figure 1-1 slides turns on a presentation tool.*

Because these slides are from the same presentation, they share an overall appearance, including their layout and colors. Varying too many elements in a presentation risks confusing the audience.

Unlike a word processing or spreadsheet program, a presentation graphics program is most likely not needed every day by the people who use it. Typically the people who create presentations do so only once a week or once a month.

However often you prepare a presentation, PowerPoint offers several ways to help you create exactly the presentation you need. Wizards, PowerPoint's electronic assistants, help you plan and complete your presentation. Cue Cards introduce you to new techniques or refresh your memory of tools you have used in the past but have forgotten. PowerPoint can even import spreadsheets and charts from Microsoft Excel and text from Microsoft Word.

The lessons in this tutorial will stress the mouse method for performing most commands. However, you will find a Command Summary at the end of each lesson, where the keyboard equivalents of the commands are listed.

STARTING MICROSOFT POWERPOINT

Microsoft PowerPoint for Windows operates within the Windows environment, so both Windows and PowerPoint must be installed on your computer system.

NOTE

The setup of both the Windows and PowerPoint programs on your computer might be different from the setup discussed here. If so, your instructor will tell you to enter a different set of commands. Because PowerPoint incorporates a group of graphics and mini-applications (such as Microsoft ClipArt Gallery and Microsoft Organization Chart), these tools must be installed on your computer system. This tutorial assumes these tools have been installed.

START MICROSOFT WINDOWS

PowerPoint is a Windows application, so you have to start Windows before you start PowerPoint. Follow these steps to start Windows.

1. Turn on the computer and monitor (but don't insert any disks yet).
2. When the DOS prompt (C:\>) appears, type **win** and press Enter.

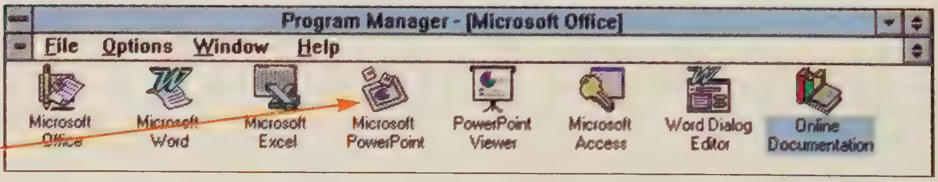
   The copyright notice appears on screen, followed by the Program Manager display of various program icons.

From the Program Manager, you can load a wide range of computer programs, such as word processing, computer graphics, business analysis, and spreadsheet programs by double-clicking on the appropriate icon. Here, you will load PowerPoint.

START POWERPOINT

1. Insert your Student Data Disk in the appropriate drive.
2. On the Program Manager screen, find the program group window that holds the Microsoft PowerPoint for Windows icon (typically Microsoft Office, as shown in Figure 1-2).

FIGURE 1-2
The Microsoft Office program group.

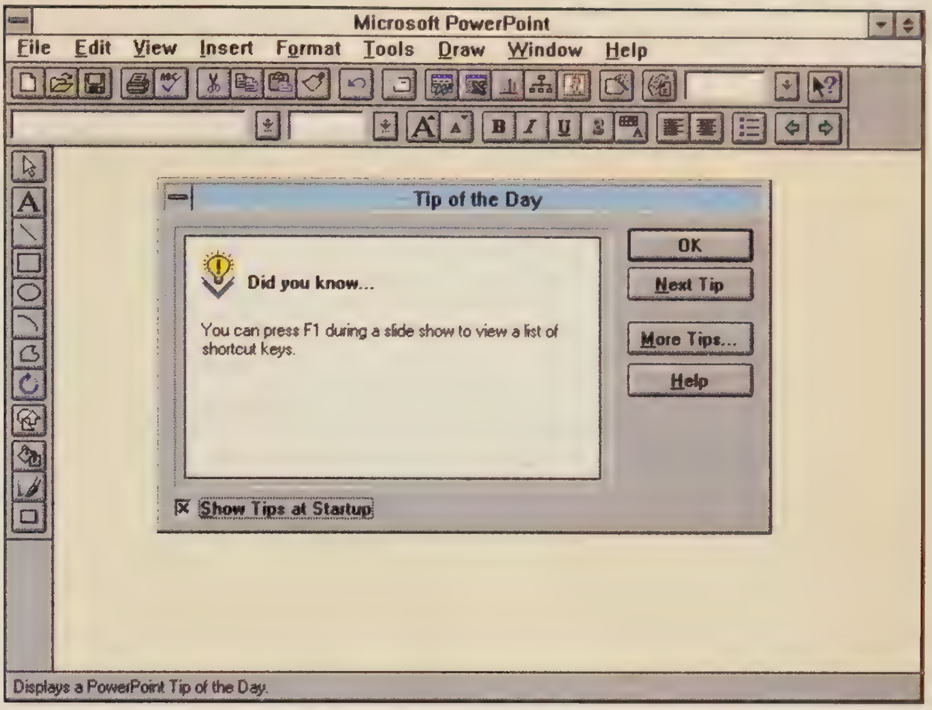


PowerPoint icon

3. Position the mouse pointer until it is over the PowerPoint icon. Double-click the left button on the mouse.

   Microsoft PowerPoint opens. The Tip of the Day dialog box appears, shown in Figure 1-3, at the center of the the work area where your presentation will be displayed.

4. After reading the tip, click OK to close this dialog box.



Did you know...

You can press F1 during a slide show to view a list of shortcut keys.

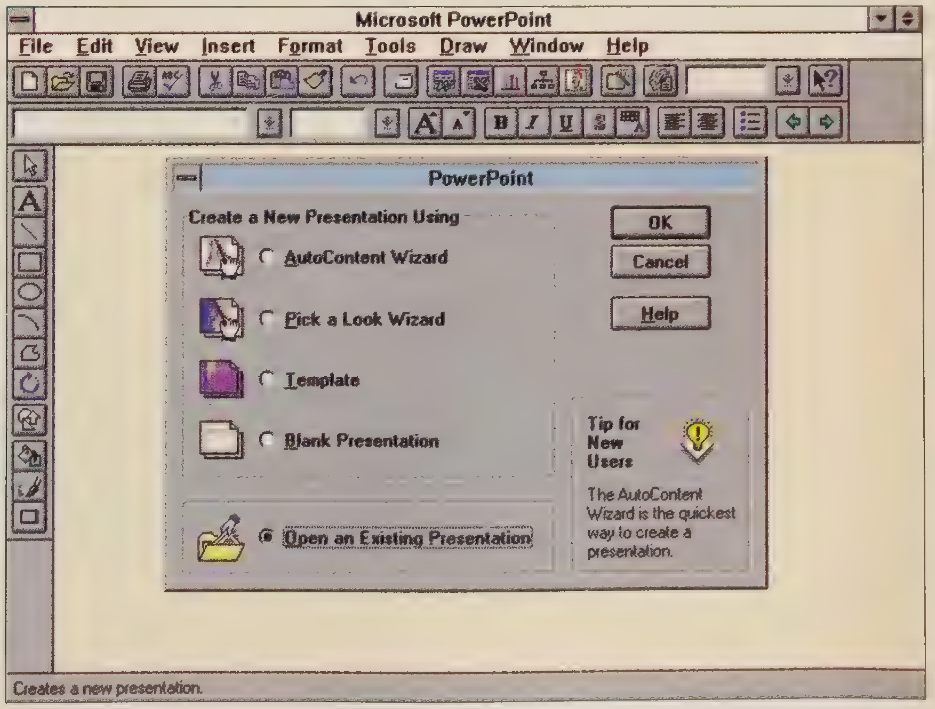
☒ Show Tips at Startup

Displays a PowerPoint Tip of the Day.

FIGURE 1-3
The Tip of the Day dialog box.

OPEN A POWERPOINT FILE

After the Tip of the Day disappears, PowerPoint opens the PowerPoint Startup dialog box. This box, actually a gateway to four means of creating a PowerPoint presentation, appears whenever you open PowerPoint. The Startup dialog box is shown in Figure 1-4.



Create a New Presentation Using

○ AutoContent Wizard

○ Pick a Look Wizard

○ Template

○ Blank Presentation

● Open an Existing Presentation

Tip for New Users

The AutoContent Wizard is the quickest way to create a presentation.

Creates a new presentation.

FIGURE 1-4
The PowerPoint Startup dialog box.

1. Double-click on the fifth option, Open An Existing Presentation.

   PowerPoint opens the Open dialog box, shown in Figure 1-5.

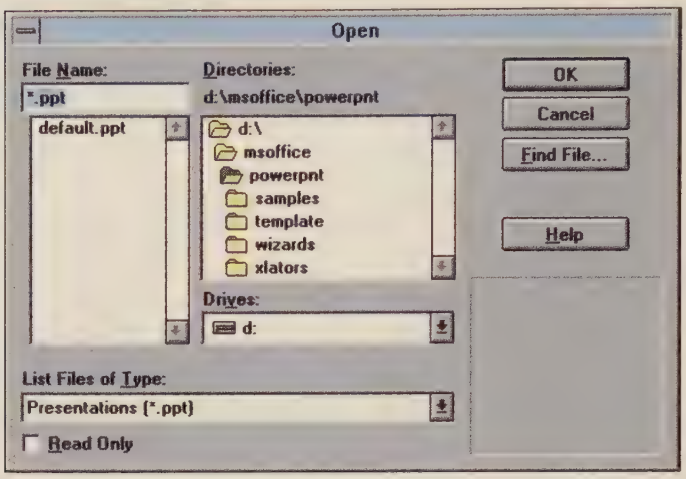


FIGURE 1-5
The Open dialog box.

Open

File Name: *.ppt
Directories: d:\msoffice\powerpnt
Drives: d:
List Files of Type: Presentations (*.ppt)

The Open dialog box is similar to Open dialog boxes in other Windows programs. It allows you to specify the drive and directory where PowerPoint will find the presentation you want to open.

2. In the Drives list box, click on the drive where your Student Data Disk is located.

   The list of Student Data Disk files appears.

3. In the File Name list box, click on the file named AGENDA.PPT.

   PowerPoint highlights the file name, as shown in Figure 1-6. In the lower-right corner of the Open dialog box, notice that PowerPoint also displays a preview of the first slide in the presentation. This feature can help you find the file you want when you cannot remember the exact file name.

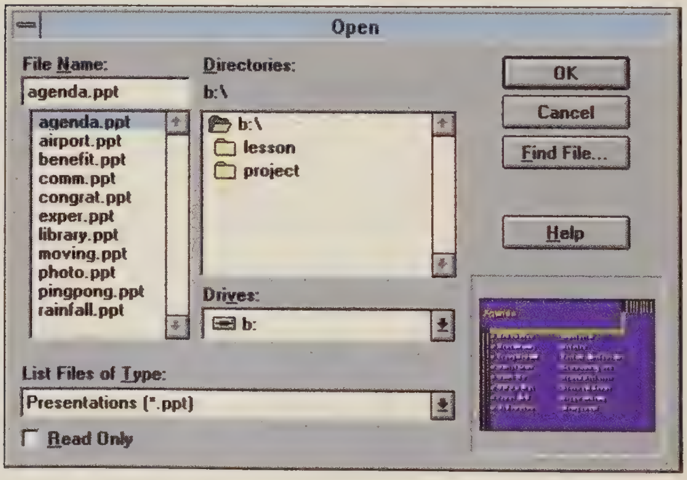


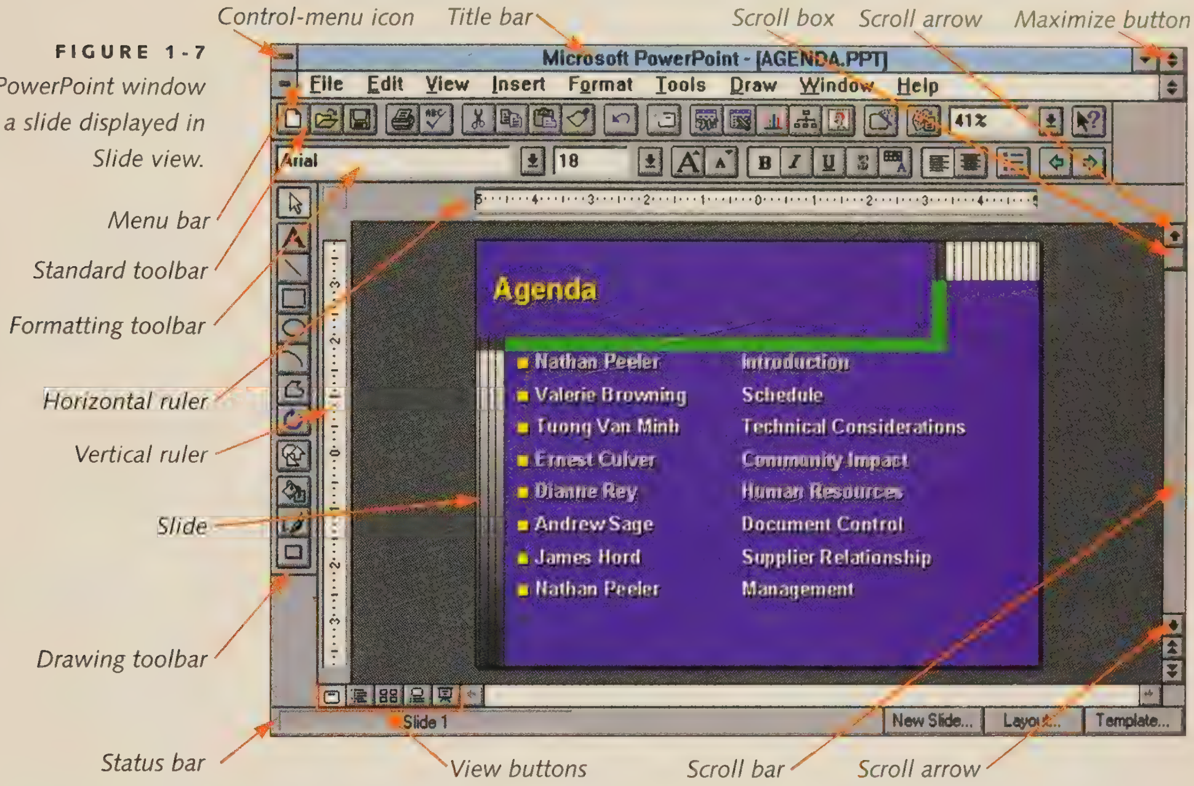
FIGURE 1-6
A presentation previewed in the Open dialog box.

Open

File Name: agenda.ppt
Directories: b:\
Drives: b:
List Files of Type: Presentations (*.ppt)

4. Click on the OK button.

As shown in Figure 1-7, PowerPoint opens the AGENDA.PPT file, an agenda of a meeting held by the Peeler Construction Company.



Agenda

Nathan Peeler	Introduction
Valerie Browning	Schedule
Tuong Van Minh	Technical Considerations
Ernest Culver	Community Impact
Dianne Rey	Human Resources
Andrew Sage	Document Control
James Hord	Supplier Relationship
Nathan Peeler	Management

FIGURE 1-7

The PowerPoint window with a slide displayed in Slide view.

NOTE

The default file extension for PowerPoint files is .PPT.

IDENTIFYING THE PARTS OF THE POWERPOINT WINDOW

The PowerPoint window on your screen may look a little different from the one shown in Figure 1-7. This is because you can customize the PowerPoint window in different ways to make the application easier to control.

TIP

By clicking on the maximize icon, you can enlarge your view of the AGENDA.PPT presentation. Figure 1-7 shows a maximized PowerPoint window.

Slide 1 of AGENDA.PPT is displayed in **Slide view**, a way to see all the text and graphics on a single slide. Notice that "Slide 1" appears below the view buttons on the PowerPoint window.

At the top of the application window, the Title bar displays the name of the application and the name of the current presentation. Refer to Figure 1-7 to familiarize yourself with the different parts of the PowerPoint for Windows window.

UNDERSTANDING THE MENU BAR

As shown in Figure 1-7, the PowerPoint Menu bar is below the Title bar. The **Menu bar** displays several menu names found in many Windows applications, such as File, Edit, and Help. PowerPoint also includes a menu that contains commands specific to presentation graphics: Draw.

Table 1-1 describes the functions of each PowerPoint menu.

TABLE 1-1: POWERPOINT MENUS

MENU	DESCRIPTION
File	Allows you to control your document files by opening, saving, printing, and exiting them.
Edit	Allows you to rearrange the elements within your presentation by copying, moving, and deleting them.
View	Allows you to view your presentation several ways and turn on and off elements of the application window.
Insert	Allows you to insert tables, clip art, and graphs into your presentation.
Format	Allows you to change the appearance of the elements within your presentation, such as the size of a character or the look of an entire presentation.
Tools	Allows you to access some of PowerPoint's specialized tools, such as the Spell Checker.
Draw	Allows you to group and manipulate objects in your slides.
Window	Allows you to manage the PowerPoint windows that are open.
Help	Allows you to access PowerPoint's online Help system.

SAVING TIME WITH TOOLBARS

Many of the most common PowerPoint commands are accessible by clicking toolbar buttons. **Toolbar buttons** are pictures or icons that represent a specific function. Three **toolbars**—collections of toolbar buttons—are displayed when you start PowerPoint. Below the Menu bar is the Standard toolbar, and below it is the Formatting toolbar. Along the left side of the PowerPoint window is the Drawing toolbar. PowerPoint offers many toolbars, including a toolbar you can construct yourself. It is quite possible to create a sophisticated presentation by using only toolbar buttons.

You will learn more about the PowerPoint window by exploring the AGENDA.PPT presentation.

VIEWING A POWERPOINT PRESENTATION

PowerPoint gives you several options for viewing a presentation on screen. Table 1-2 describes each of the five View buttons and indicates which tasks are best performed in each view.

TABLE 1-2: POWERPOINT'S VIEW BUTTONS

TOOLBAR BUTTONS	DESCRIPTION
Slide View	Displays one slide per screen. Creates, edits, and moves graphics.
Outline View	Displays outline of text in presentation. Enters and edits text.
Slide Sorter View	Displays multiple slides. Moves, copies, and deletes slides.
Notes Pages View	Displays note pages.
Slide Show	Displays slides as they appear during presentation.

SWITCHING AMONG VIEWS

Because presentations incorporate many elements, it is a good idea to examine your slides in different views as you create them. In this section, you will examine the four most valuable ways to view a presentation. Each view has its strengths, and they combine to give a complete picture of your work.

LOOK AT SLIDES IN OUTLINE VIEW

1. Hold the mouse pointer over the Outline View button.

   A ToolTips box appears, displaying the name of the Outline View button.

   ToolTips boxes contain the names of toolbar buttons, helping you remember what each toolbar button represents. Simply hold your mouse pointer over a toolbar button for several seconds and a box appears.

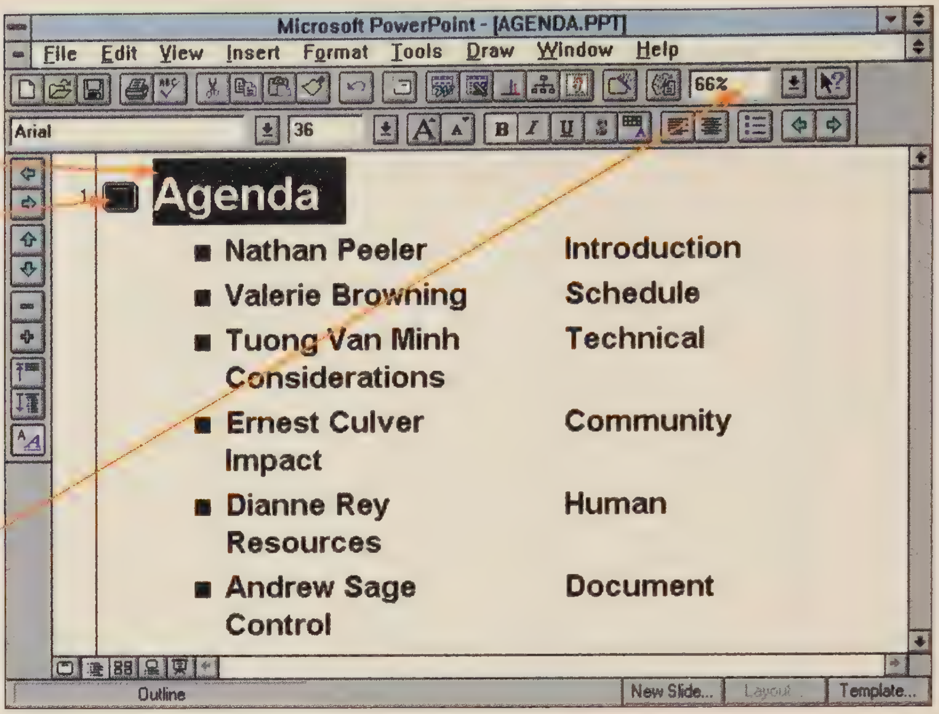
2. Click on the Outline View button.

   As shown in Figure 1-8, PowerPoint switches to Outline view, generally the best way to add and edit text. Notice that "Outline" now appears below the view buttons on the PowerPoint window.

   Outline view displays only the text for each slide; it does not display the slide itself or its graphics. Next to the **title** (the first line of text) of each slide is a **slide icon,** PowerPoint's way of reminding you that this text belongs to another slide. For slide 1, this icon simply resembles an empty slide.

FIGURE 1-8

A slide displayed in Outline view.


Microsoft PowerPoint - [AGENDA.PPT]
File Edit View Insert Format Tools Draw Window Help
66%
Arial
36
New Slide...
Layout
Template...
Outline
1

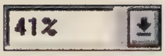
Agenda
- Nathan Peeler Introduction
- Valerie Browning Schedule
- Tuong Van Minh Technical Considerations
- Ernest Culver Community Impact
- Dianne Rey Human Resources
- Andrew Sage Document Control

Title

Slide icon

Zoom Control box

Before you explore the presentation further, it is a good idea to make an adjustment so that PowerPoint can display more information on the screen. Outline view is capable of showing the text for more than one slide at once—that is one of its biggest advantages. When you open some presentations, however, the magnification may be too large, and you may only be able to view the text for one slide. The **view scale** controls the magnification of a slide in each view. Fortunately, you can quickly change the view scale.



3. Click the Zoom Control arrow on the Standard toolbar.

   A list of view scales ranging from 25% to 100% appears.

4. Click on 50%.

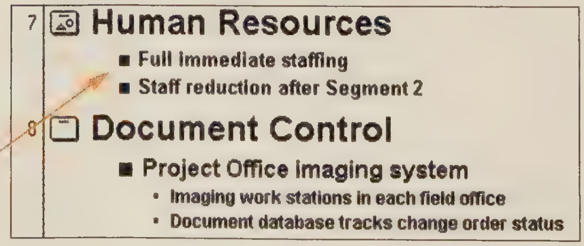
   The list closes. The view scale changes. Now all of slide 1 and part of slide 2 are shown in Outline view.

5. Drag the scroll box down the scroll bar until you can see all of slide 7, Human Resources.

   PowerPoint displays a different slide icon design, as shown in Figure 1-9.

FIGURE 1-9

The slide icon for slide 7 indicates the slide has graphics.



Human Resources
- Full immediate staffing
- Staff reduction after Segment 2

Document Control
- Project Office imaging system
  - Imaging work stations in each field office
  - Document database tracks change order status

Subtitles for slide 7

This slide icon has two shapes within it. These shapes tell you that this slide includes graphics (organization charts, graphs, and so on), an important thing to know if you are adding more text to the slide.

UNDERSTANDING SUBTITLE INDENTS

In Outline view, each slide has at least a title. More commonly, a slide consists of a title and several subtitles. In PowerPoint a **subtitle** is any text under the title. (Text appearing in an object is not a subtitle.) Each subtitle has an **indent level**, a number that describes the position of the subtitle. For example, the first subtitle under the slide title is the level 1 subtitle. Under that would be a level 2 subtitle.

In PowerPoint each level of subtitle has its own formatting. Because a level 1 subtitle communicates a more important point than a level 2 subtitle, the level 1 subtitle has larger text and a larger bullet than a level 2 subtitle. As you will see in the following steps, it is simple to change the level of a subtitle.

PROMOTE A SUBTITLE

When you **promote** a subtitle, you move it to the next highest indent level: thus, a level 2 subtitle becomes a level 1 subtitle.

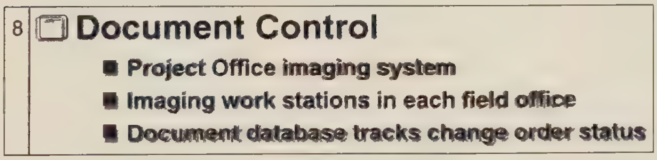
1. If necessary, scroll to slide 8.

   Slide 8 has a level 1 subtitle and two level 2 subtitles.

2. Highlight the two level 2 subtitles.
3. Click on the Promote button, the second to the last button on the Formatting toolbar.

   The level 2 subtitles become level 1 subtitles. As shown in Figure 1-10, their size increases, and they now have the larger level 1 subtitle bullets.

FIGURE 1-10
Slide 8 after the level 2 subtitles have been promoted.



8 **Document Control**
- **Project Office imaging system**
- **Imaging work stations in each field office**
- **Document database tracks change order status**

Clicking on the Demote button has the opposite effect. For example, you would select the **Demote** button, the last button on the Formatting toolbar, when you want to change a level 1 subtitle to a level 2 subtitle.

LOOK AT SLIDES IN SLIDE VIEW

In Slide view you navigate through a presentation one slide at a time. When you display each slide, **Slide view** shows both text and graphics, allowing you to check how they work together. As with Outline view, you can navigate with the scroll bars and promote and demote subtitles.

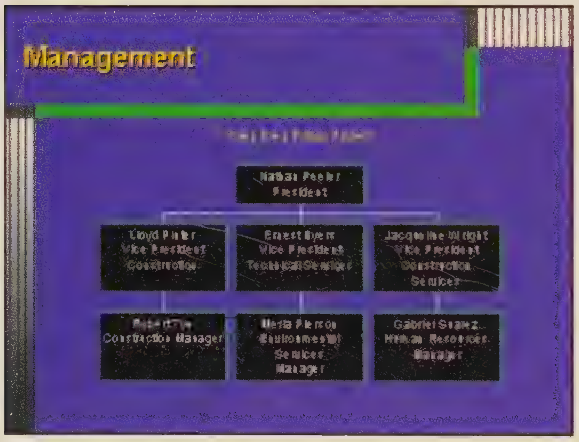
1. While still in Outline view, scroll to slide 10, then click on its icon to select it.

   The slide icon indicates that slide 10 has a graphic. Still, it seems that someone forgot to create subtitles for slide 10.

2. Click on the Slide View button to switch to Slide view.

   As shown in Figure 1-11, there is a reason why slide 10 has no subtitles—the organization chart leaves no room, a detail that Outline view did not show.

FIGURE 1-11
Slide view shows a large graphic for slide 10.



Management

Nathan Peeler
President

Lloyd Pinter
Vice President
Construction

Ernest Byers
Vice President
Technical Services

Jacqueline Wright
Vice President
Construction
Services

[illegible]
Construction Manager

Merla Pierson
Environmental
Services
Manager

Gabriel Suarez
Human Resources
Manager

3. Drag the scroll box until you reach slide 2.

   *A **Slide Indicator box** appears beside the scroll box, informing you which slide has been selected.*

4. Highlight the level 2 subtitles on slide 2.

   A selection box surrounds the subtitles.

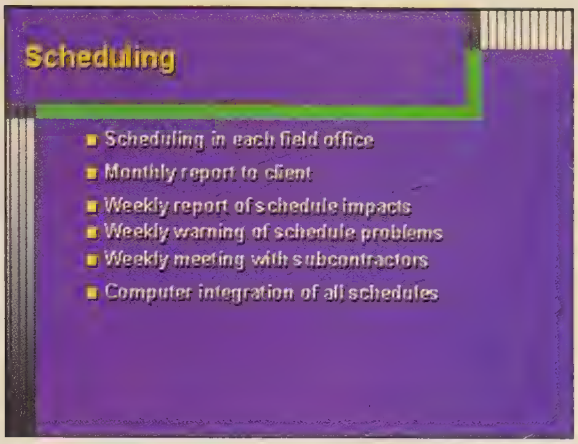
5. Click on the Promote button.

   The subtitles change to level 1 subtitles; Slide view shows that room remains on the slide.

6. Click on the gray area surrounding slide 2.

   The selection box disappears. Your slide should resemble the slide shown in Figure 1-12.

FIGURE 1-12
Slide 2 after the level 2 subtitles have been promoted.



Scheduling

- Scheduling in each field office
- Monthly report to client
- Weekly report of schedule impacts
- Weekly warning of schedule problems
- Weekly meeting with subcontractors
- Computer integration of all schedules

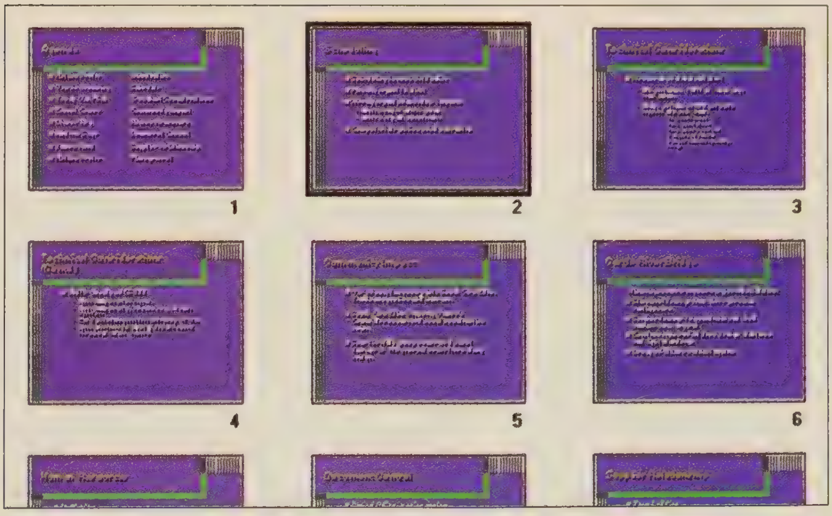
SEE THE BIG PICTURE IN SLIDE SORTER VIEW

Slide Sorter view offers a way to examine an entire presentation, rather than a single slide. From here, you can easily change a slide's place in a presentation or delete it entirely.

1. Click on the Slide Sorter View button to switch to Slide Sorter view.

   The AGENDA.PPT presentation is now displayed in Slide Sorter view, as shown in Figure 1-13.

FIGURE 1-13
The AGENDA.PPT presentation displayed in Slide Sorter view.



Unlike Outline view, this view of your presentation does not allow you to read your text easily. That is because Slide Sorter is the tool for making large changes to your presentation, such as deleting two or three slides.

2. Scroll to the beginning of the presentation until slide 1 appears.

   You will change slide 1 to reflect a new presentation order.

3. Scroll to the end of the presentation.

4. Click on slide 10.

A black border surrounds slide 10.

PowerPoint uses this black border to indicate that slide 10 has been selected. You can now copy, delete, or move slide 10, functions easiest to perform in Slide Sorter view.

5. Click on the Cut button on the Standard toolbar.

Slide 10 is deleted from the presentation and placed on the Clipboard. A blinking cursor shows where slide 10 used to be.

6. Click the mouse pointer after slide 1.

The cursor now blinks after slide 1.

7. Click on the Paste button on the Standard toolbar.

As shown in Figure 1-14, slide 10 is pasted after slide 1. Slide 10 is now numbered slide 2, and the other slides have been renumbered. The black border surrounding slide 2 shows that it is still selected.

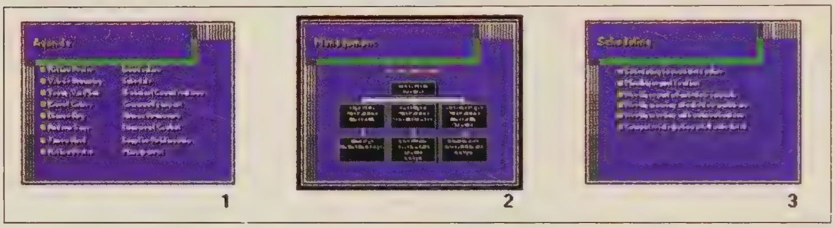


FIGURE 1-14
After it has been moved, slide 2 is still selected.

You will use a new technique to move slide 6 before slide 3.

8. Click on slide 6.

The black border moves to slide 6.

9. Drag slide 6 to a position immediately before slide 3. Release the mouse button.

Slide 6 drops into place and becomes slide 3. PowerPoint renumbers the other slides.

*The **slide icon pointer,** showing the position of the slide you are dragging, appeared as you were dragging the slide. A shaded line appeared before slide 3, showing you where PowerPoint will drop the slide.*

The presentation should resemble Figure 1-15.

You will make one more change to the AGENDA.PPT presentation and delete slides 5 and 6.

10. Select slide 5.

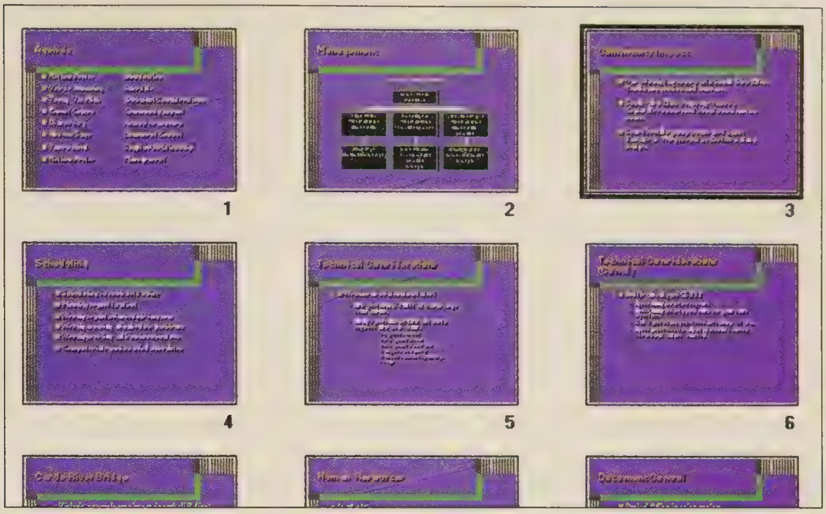
11. Hold Shift and click on slide 6.

A black border surrounds each slide.

12. Press Del.

The slides are deleted; the other slides are renumbered.

FIGURE 1-15
Slide 6 has been renumbered as slide 3.



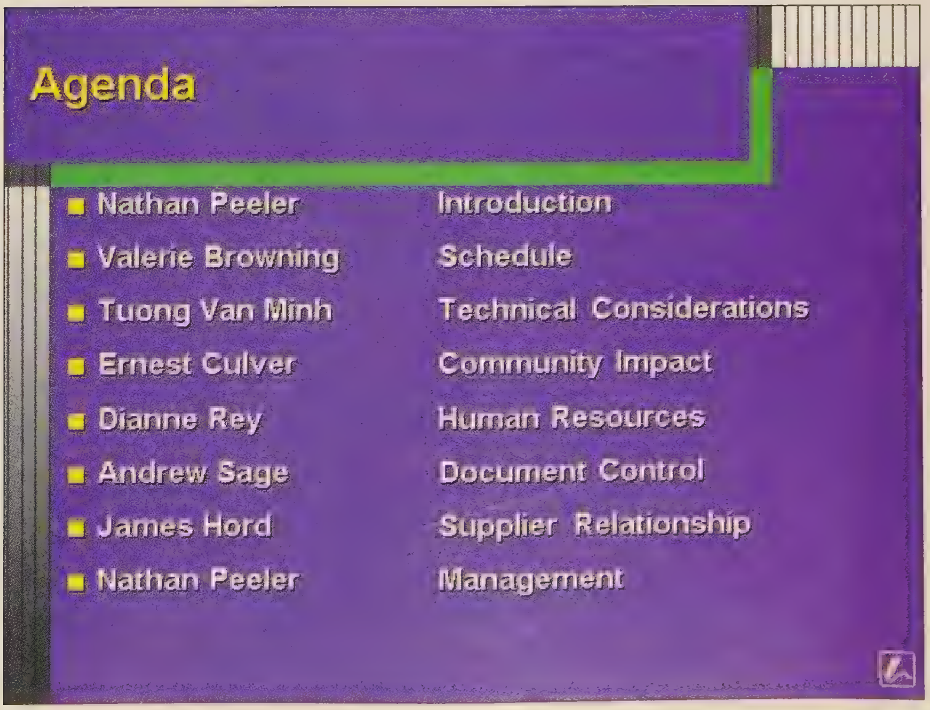
PREVIEW YOUR PRESENTATION WITH SLIDE SHOW VIEW

Creating effective individual slides is not enough. Those slides must create an effective presentation. To give you the sense of an entire presentation, PowerPoint allows you to examine slides as if they were loaded into a slide projector. PowerPoint does this with **Slide Show view.**

1. While still in Slide Sorter view, click on slide 1.
2. Click on the fifth view button, the Slide Show View button.

PowerPoint fills the screen with slide 1, as shown in Figure 1-16, just as it would be projected onto a screen.

FIGURE 1-16
Slide 1 displayed in Slide Show view.



Agenda

Nathan Peeler	Introduction
Valerie Browning	Schedule
Tuong Van Minh	Technical Considerations
Ernest Culver	Community Impact
Dianne Rey	Human Resources
Andrew Sage	Document Control
James Hord	Supplier Relationship
Nathan Peeler	Management

3. Click the left mouse button to move to the next slide.

   Slide 2 appears on screen.

4. Click the left mouse button again.

   Slide 3 appears on screen.

5. Click the right mouse button to move back to the previous slide.

   Slide 2 reappears on screen.

TIP *To move backwards in Slide Show view, simply click the right mouse button.*

6. Press Esc to return to Slide Sorter view.

FINDING HELP

If you forget how to do something, PowerPoint's online Help system is a fast way to refresh your memory. Help also offers guidance and suggestions for working more efficiently. PowerPoint offers three ways to find help: clicking on a button or icon with the Help cursor, searching the Help database with the Search dialog box, and opening a Cue Card.

FIND HELP BY USING THE HELP CURSOR

1. Click on the Help button, the last button on the Standard toolbar.

   PowerPoint changes the mouse pointer to the ***Help pointer****, a tool to tell Help which topic you want to learn about. The Help pointer looks like an arrow beside a question mark.*

2. Click on the Notes Pages View button with the Help pointer.

   PowerPoint displays the Help screen shown in Figure 1-17.

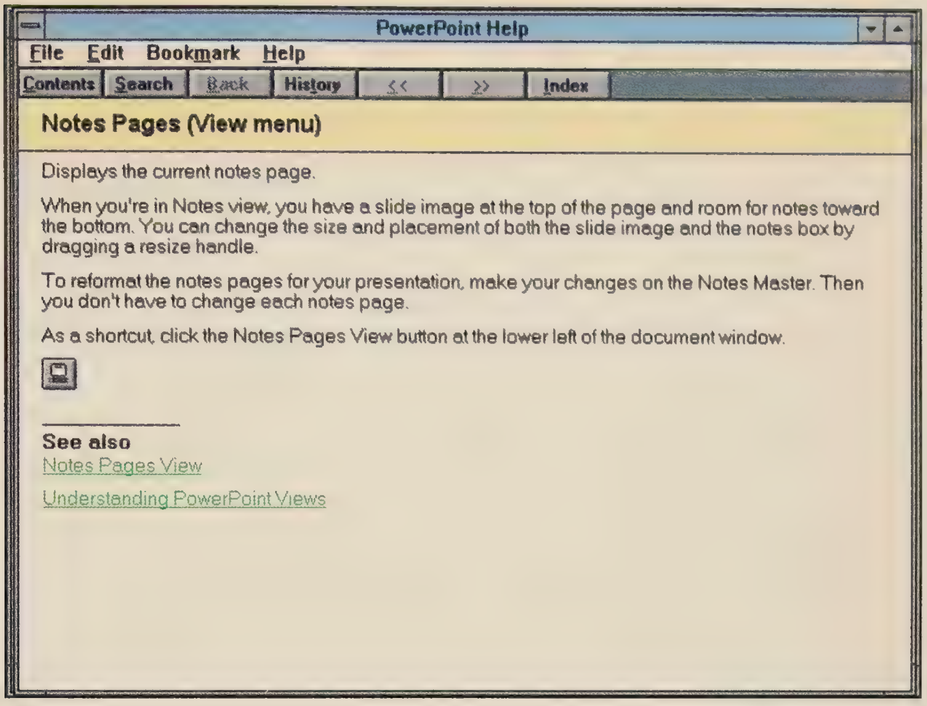
3. Read the definition of Notes Pages. Then move your mouse pointer over the first underlined phrase, "Notes Pages View."

   The mouse pointer changes to the Hand pointer.

4. Click the Hand pointer on "Notes Pages View."

   The Notes Pages View Help screen appears.

FIGURE 1-17
The Help screen that results from clicking the Help pointer on the Notes Pages View button.



Notes Pages (View menu)

Displays the current notes page.

When you're in Notes view, you have a slide image at the top of the page and room for notes toward the bottom. You can change the size and placement of both the slide image and the notes box by dragging a resize handle.

To reformat the notes pages for your presentation, make your changes on the Notes Master. Then you don't have to change each notes page.

As a shortcut, click the Notes Pages View button at the lower left of the document window.

See also
Notes Pages View
Understanding PowerPoint Views

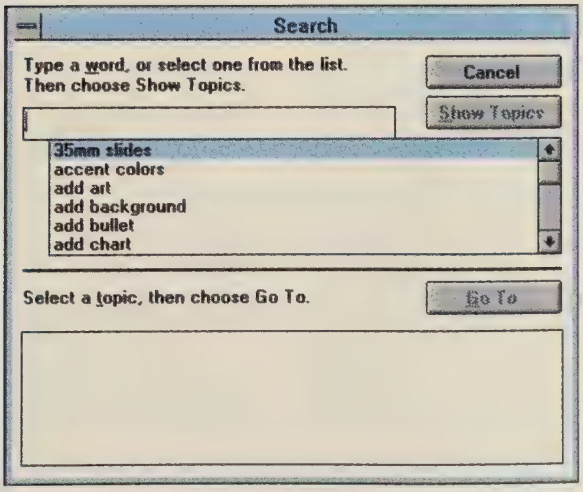
FIND HELP BY SEARCHING FOR A HELP TOPIC

Suppose, after reading about Notes Pages View, you have a question about another topic. You can easily search online Help for a specific topic.

1. Click on the Search button available at the top of the currently displayed Help screen.

   The Search dialog box appears, as shown in Figure 1-18. When you enter a topic in this dialog box, PowerPoint searches for other subjects that refer to the topic you entered.

FIGURE 1-18
The Search dialog box.



Type a word, or select one from the list.
Then choose Show Topics.

Select a topic, then choose Go To.

2. Type **Slide Show** where the cursor is blinking.

   Even before you finish typing, a topic is highlighted: slide show.

3. Double-click on "slide show" in the list box.

   Seventeen topics appear at the bottom of the dialog box.

4. Double-click on the first topic, or click the Go To button.

   Another Help screen appears: About Creating And Running Slide Shows.

5. Read the About Creating And Running Slide Shows Help screen.

6. Double-click the Control-menu box in the upper-left corner of the Help window.

   The Help screen closes. The PowerPoint application window reappears.

You can also reach context-sensitive help by clicking on the Help button appearing on most dialog boxes. This type of help is referred to as context-sensitive because it provides immediate assistance with the dialog box that is currently active.

FIND HELP WITH CUE CARDS

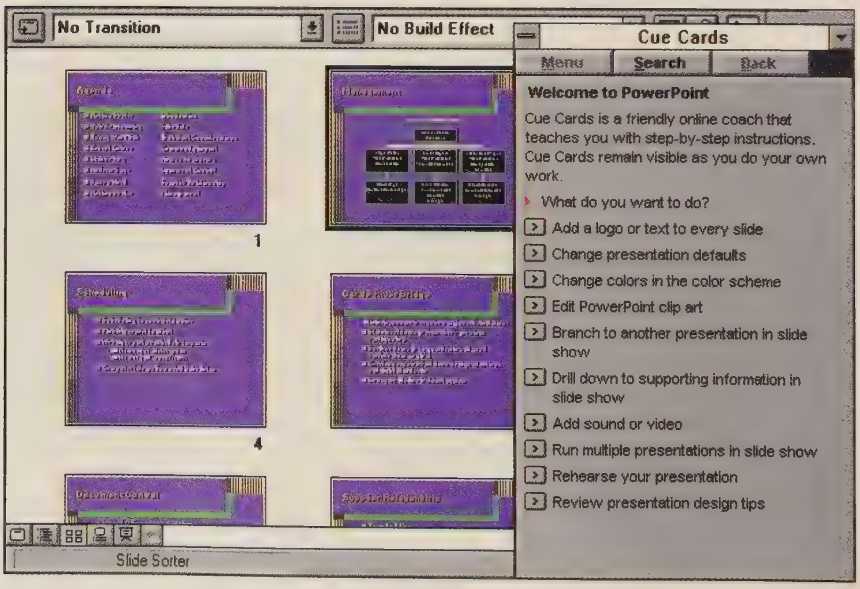
One final way to find help is to open a **Cue Card** that offers step-by-step instructions. One advantage of a Cue Card is that it remains open while you follow its instructions.

1. Select the Cue Cards command from the Help menu.

   A Cue Card opens, as Figure 1-19 shows. This Cue Card offers ten subjects.

FIGURE 1-19

A Cue Card stays open to offer step-by-step help.



Welcome to PowerPoint

Cue Cards is a friendly online coach that teaches you with step-by-step instructions. Cue Cards remain visible as you do your own work.

What do you want to do?

- Add a logo or text to every slide
- Change presentation defaults
- Change colors in the color scheme
- Edit PowerPoint clip art
- Branch to another presentation in slide show
- Drill down to supporting information in slide show
- Add sound or video
- Run multiple presentations in slide show
- Rehearse your presentation
- Review presentation design tips

2. Select the tenth subject, Review Presentation Design Tips, by clicking on the button beside it.

   Another Cue Card appears, listing six tips to remember when designing slides.

3. After you have read the tips, double-click on the Control-menu icon.

   The Cue Card closes.

SPELL CHECKING A PRESENTATION

Before you complete a presentation, it is a good idea to spell check your work. You can open the Spelling dialog box by clicking the Spelling button on the Standard toolbar. The buttons on the Spelling dialog box perform the same functions as the Spelling dialog box buttons in Word.

The Spell Check feature checks the spelling of each word in the presentation, comparing the words to an electronic dictionary that is stored on your computer. When the program finds a word that isn't in the dictionary, it displays the word in the dialog box. You can correct the word or leave it as is.

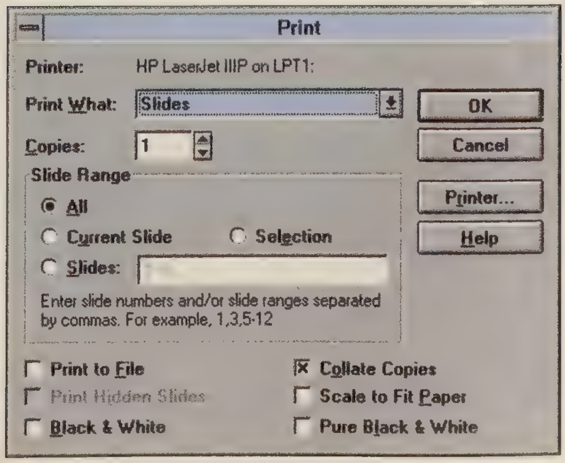
When using the Spell Checker, remember that it won't necessarily eliminate all errors from your presentation. For example, the Spell Checker won't find an error if you have mispelled "their" as "there."

PRINTING A PRESENTATION

Presentations are given in several ways: on screen, as transparencies, or in reports. The form your final presentation will take determines what role your printer will play. For example, printing slides on a laser printer is a way to produce a draft presentation for review. This is an easy way to ask for comments without having to run a slide show for each reviewer.

As you might expect, you can simply click on the Print button on the Standard toolbar to print a presentation. This button will print every slide in the presentation without further instruction from you.

You can also select the Print command from the File menu. Using the Print command opens the Print dialog box, shown in Figure 1-20.



Printer: HP LaserJet IIIP on LPT1:

Print What: Slides

Copies: 1

Slide Range

● All

○ Current Slide ○ Selection

○ Slides:

Enter slide numbers and/or slide ranges separated by commas. For example, 1,3,5-12

☐ Print to File ☒ Collate Copies

☐ Print Hidden Slides ☐ Scale to Fit Paper

☐ Black & White ☐ Pure Black & White

FIGURE 1-20
The Print dialog box.

1. Select the Print command on the File menu.
2. Click the OK button or press Enter.

   PowerPoint prints one copy of each slide. Depending on your printer and how many slides you are printing, printing a presentation may take several minutes.

3. Examine the printout of your presentation.

   If you are using a black-and-white printer, PowerPoint adjusts the presentation's color scheme and uses grays to suggest contrasting colors.

SAVING A PRESENTATION

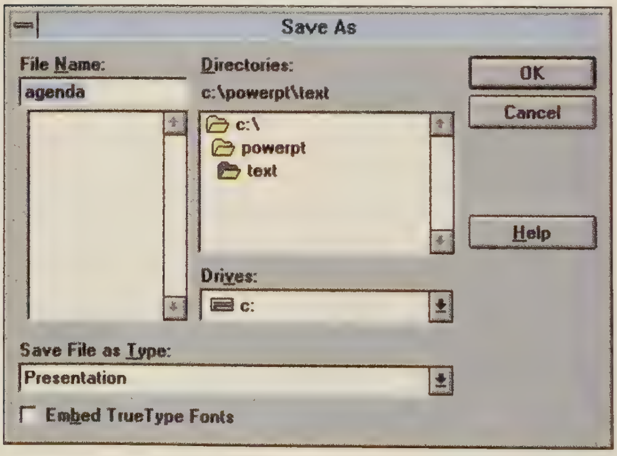
Now that you have printed the presentation, it is time to save it before you exit PowerPoint. It is always a good idea to save your presentation every 5 to 10 minutes. You can do this simply by clicking on the Save button on the Standard toolbar.

SAVE THE PRESENTATION WITH A NEW FILE NAME

If you want to give the document a new name or save it to a new location, you should display the Save As dialog box, by selecting the Save As command from the File menu.

1. Select the Save As command from the File menu.

   PowerPoint opens the Save As dialog box, as shown in Figure 1-21. Notice that the current file name of the presentation is highlighted. (Your Save As dialog box will display the files on your Student Data Disk.)



File Name: agenda

Directories: c:\powerpt\text

Drives: c:

Save File as Type: Presentation

☐ Embed TrueType Fonts

FIGURE 1-21
The Save As dialog box.

2. Type a new name for the file: AGENDA1.PPT
3. Click the OK button or press Enter.

   PowerPoint saves the presentation under its new file name.

QUITTING POWERPOINT

Now that you have printed a copy of your presentation and saved it under a new name, you are ready to exit PowerPoint.

QUIT POWERPOINT

1. Select the Exit command from the File menu or double click on the Control-menu box.

   PowerPoint closes and you are returned to Windows.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Start PowerPoint	Double-click PowerPoint application icon		Microsoft PowerPoint
Outline view	Choose View, Outline	Alt+v,o	☰
Change view scale	Click on Zoom Control arrow *or* select View, Zoom	Alt+v,z	41% ▼
Promote subtitle		Alt+Shift+←	⇦
Demote subtitle		Alt+Shift+→	⇨
Slide view	Choose View, Slides	Alt+v,s	▭
Slide Sorter view	Choose View, Slide Sorter	Alt+v,d	⊞
Slide Show view	Choose View, Slides	Alt+v,w	🖵
Scroll screenful in any direction	Click vertical scroll bar	Page Down *or* Page Up	
Scroll large distance in any direction	Drag scroll box on vertical scroll bar	Ctrl+Home, Ctrl+End (moves to first slide or last slide)	
Display Slide Indicator box	Click on scroll box and hold left mouse button		
Move slide in Slide Sorter view	Drag slide to new position	Ctrl+c, Ctrl+v	
Get online Help	Choose any of the Help commands	F1	↖?
Notes Pages view	Choose View, Notes Pages	Alt+v,n	🖵
Search for Help topic	Choose Help, Search *or* double-click the Help tool	Alt+h,s	
Spell check a presentation	Choose Tools, Spelling	Alt+t,s	ABC ✓

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Print	Choose File, Print	Alt+f,p *or* Ctrl+p	🖨
Save	Choose File, Save	Alt+f,s *or* Ctrl+s	💾
Save As	Choose File, Save As	Alt+f,a *or* F12	
Quit	Choose File, Exit	Alt+f,x *or* F4	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. Slide Sorter view	**a.** A help tool that offers step-by-step instructions
2. toolbar button	**b.** A mouse pointer that appears after you click on the Help button
3. Cue Card	**c.** The first line of text in a slide
4. Slide view	**d.** A picture or icon representing a software command
5. Hand pointer	**e.** The best view for copying, deleting, and moving slides
6. ToolTips box	**f.** A box that reveals the name of a toolbar button
7. Help pointer	**g.** The best view for entering text
8. Outline view	**h.** A mouse pointer that allows you to open an underlined Help topic
9. Slide Show view	**i.** A view that previews a presentation as it would appear on screen
10. title	**j.** The best view for viewing a slide's graphics

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which of the following is not a PowerPoint view option?

- **a.** Slide view
- **b.** Slide Sorter view
- **c.** Print Preview
- **d.** Notes Pages view

2. Which of the following statements about Cue Cards is true?

- **a.** They can be opened by clicking the Cue Cards button on the Standard toolbar.
- **b.** They display the name of every toolbar button.
- **c.** They can be opened with the Hand pointer.
- **d.** They remain open on screen while you follow their directions.

3. Which three toolbars are visible when you open PowerPoint for the first time?

- **a.** AutoShapes, Formatting, and Standard
- **b.** Drawing, Formatting, and Slide Sorter
- **c.** AutoShapes, Formatting, and Status bar
- **d.** Drawing, Formatting, and Standard

4. When the PowerPoint window and document window are maximized, what information does the Title bar display?

- **a.** The number of the slide selected
- **b.** The name of the application and the name of the file
- **c.** The name of the application and the name of the view
- **d.** The name of the file and the name of the view

5. How do you exit Slide Show view?

- **a.** Press [Esc].
- **b.** Click the Slide view button.
- **c.** Double-click on the current slide.
- **d.** Press [Ctrl]+s.

6. Why is a good presentation more effective than pages of text?
   - **a.** A presentation always prints faster.
   - **b.** An audience is more likely to remember material it has seen and heard.
   - **c.** A presentation is less expensive to create.
   - **d.** There is no text to read in a presentation.
7. Where does the Slide Indicator box appear?
   - **a.** Beside the scroll box
   - **b.** On the Status bar
   - **c.** On the View menu
   - **d.** In Outline view, beside the slide title
8. You have just moved slide 3 to behind slide 9. How do you renumber slide 3?
   - **a.** Select the Renumber command on the Format menu.
   - **b.** Select the Renumber Slides command on the Format menu.
   - **c.** The slides are renumbered automatically.
   - **d.** The slides are only renumbered automatically in Slide view.
9. You are modifying an existing presentation. You click on the Save toolbar button. What happens?
   - **a.** PowerPoint opens the Save As dialog box.
   - **b.** PowerPoint asks if you want to rename the file.
   - **c.** PowerPoint saves your presentation under its present file name and location.
   - **d.** PowerPoint adds the file name to the Window menu.
10. What are the two elements on a page of notes pages?
    - **a.** A slide image and a graphic
    - **b.** A slide image and notes
    - **c.** Two slides
    - **d.** Two slides and notes

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. What are five things a presentation may incorporate to present information to an audience?
2. How do you search for a topic in Help?
3. How do you display a new slide in Slide Show view?
4. In Outline view, how can you tell if the slide you have selected has a graphic?
5. In Slide view, what are the two ways to see which slide you have selected?
6. How can you print a file without opening the Print dialog box?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open the AGENDA1.PPT presentation and practice the navigating and reordering skills you learned in this lesson by doing the following:

   Switch to Slide Sorter view and select slide 5. Move slide 5 so that it is the last slide in the presentation. Delete the last slide in the presentation and then switch to Slide view. Change the view scale to 33%. Save the presentation as PROJ1-1.PPT in the PROJECTS directory of your Student Data Disk. If your instructor has asked that you print your presentation, do so now. Close the presentation.

2. Open the PINGPONG.PPT presentation on your Student Data Disk. Using the knowledge you acquired in this lesson, scroll through the presentation and consider its organization. On a separate piece of paper, answer the following questions:

   How many graphics have been added to this presentation? Which slides have graphics? Why would it be a disadvantage to view slides 2 and 5 in Outline view?

   If necessary, reorder the slides to produce a more logical order.

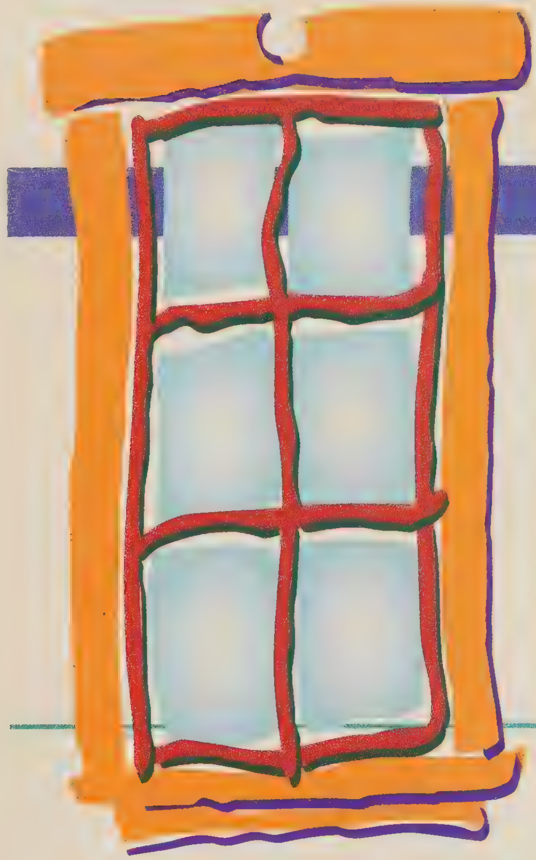
3. Open the RAINFALL.PPT presentation on your Student Data Disk.

   Display the "Welcome to PowerPoint" Cue Card on your screen. Select the last Cue Card topic, Review Presentation Design Tips. With that Cue Card displayed, review the RAINFALL.PPT presentation. (Remember that you can move the Cue Card if it blocks your view.)

On a separate piece of paper, answer whether this presentation followed each of the six design tips. For each tip the presentation did not follow, describe what the presentation did that is contrary to the design tip.

4. With the RAINFALL.PPT presentation open, display slide 6. Promote subtitles 1, 3, and 5 to level 1 subtitles. Display slide 7 and demote subtitles 2, 3, and 4 to level 2 subtitles. Save the presentation as PROJ1-4.PPT in the PROJECTS directory of your Student Data Disk. If your instructor has asked that you print your presentation, do so now.

5. PowerPoint provides extensive online Help for learning PowerPoint for Windows. Open the Print dialog box and click on the Help button. Read the resulting Help screen. On a sheet of paper, explain one advantage of the Current Slide option (under Slide Range) compared with the All option. Close the presentation.



LESSON 2

CREATING A NEW PRESENTATION

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Create a presentation using PowerPoint Wizards.*
- *Create a presentation using an existing template.*
- *Resize text and change its font.*
- *Adjust text indents using the ruler.*
- *Copy slides from one presentation to another.*
- *Add clip art to a presentation.*
- *Add objects to a presentation.*
- *Resize objects.*

Our Strengths

- Industry leader in medium-size construction
- State-of-the-art project controls technology

Modifying a presentation has already taught you many of the skills you need to create an original presentation. In this lesson you will gain the remaining skills you need to learn, as you create several presentations using Wizards and the Blank Presentation option. After you have finished working with these methods, you will augment your new presentations by adding and resizing text, clip art, and objects. You will also incorporate a slide from one presentation into another. After completing this lesson, you will be able to produce a presentation on your own, using whichever creation tools you prefer.

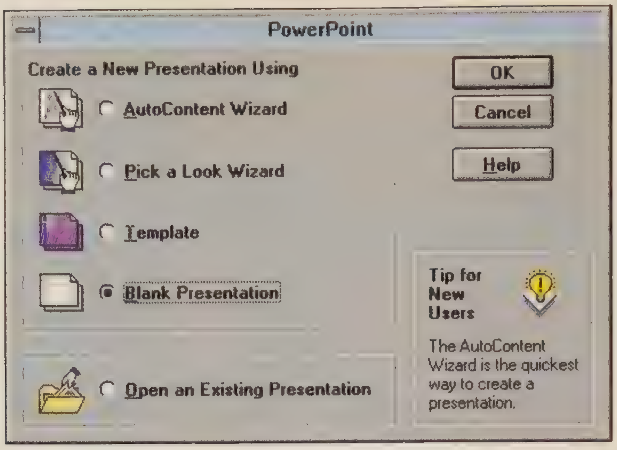
USING THE AUTOCONTENT WIZARD

Presentations are often required in a hurry, with little time to spare. Therefore you will want to know how to use the PowerPoint tools designed to get you working fast. In this lesson you will create a presentation using three methods: the **AutoContent Wizard**, the **Pick a Look Wizard**, and the **Blank Presentation option**. You will work with the AutoContent Wizard first.

START THE AUTOCONTENT WIZARD

1. Start PowerPoint.
2. If PowerPoint displays the Tip of the Day dialog box, read the Tip of the Day and then click OK.

   The Startup dialog box appears, as shown in Figure 2-1.



Create a New Presentation Using

○ AutoContent Wizard

○ Pick a Look Wizard

○ Template

● Blank Presentation

○ Open an Existing Presentation

Tip for New Users

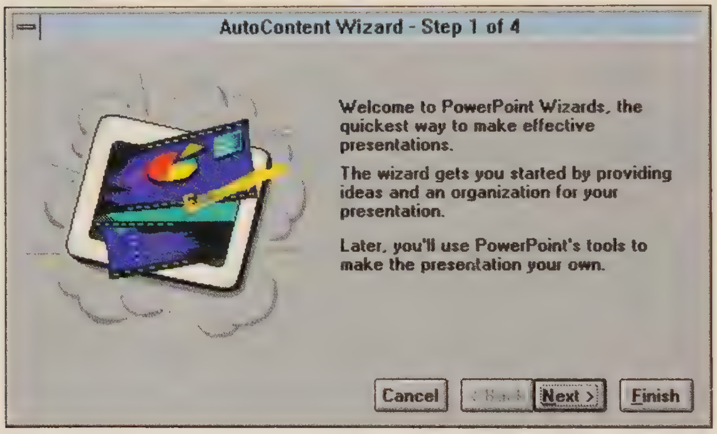
The AutoContent Wizard is the quickest way to create a presentation.

FIGURE 2-1

The Startup dialog box.

3. Double-click on the first option, the AutoContent Wizard.

   The AutoContent Wizard introduction box opens, as shown in Figure 2-2. Notice that the Title bar of the dialog box tells you that this is step 1 of 4.



Welcome to PowerPoint Wizards, the quickest way to make effective presentations.

The wizard gets you started by providing ideas and an organization for your presentation.

Later, you'll use PowerPoint's tools to make the presentation your own.

FIGURE 2-2

The AutoContent Wizard introduction box.

USE THE AUTOCONTENT WIZARD

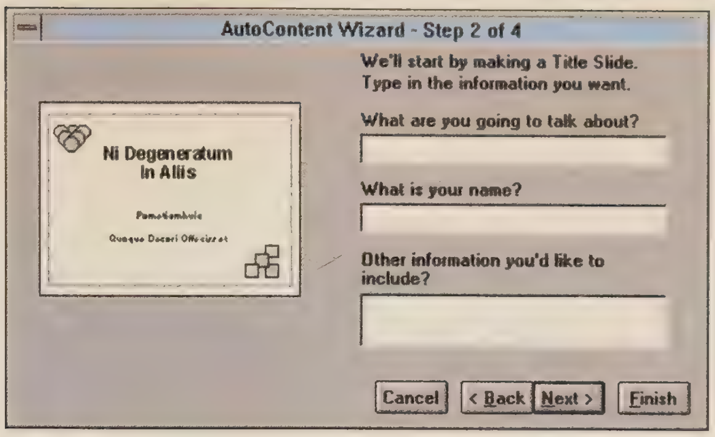
1. Read the introductory text.
2. Click the Next button.

   The second AutoContent Wizard dialog box opens, as shown in Figure 2-3. Here you begin entering information. The information in the What Is Your Name? and Other Information You'd Like To Include? text boxes will vary.

   You will create a presentation for Peeler Construction.
3. In the What Are You Going To Talk About? text box, type **Construction Services Marketing**
4. Click in the What Is Your Name? text box.
5. Type **Loretta Chu**, the name of the company art director.

FIGURE 2-3

The second AutoContent Wizard dialog box.



We'll start by making a Title Slide.
Type in the information you want.

What are you going to talk about?

What is your name?

Other information you'd like to include?

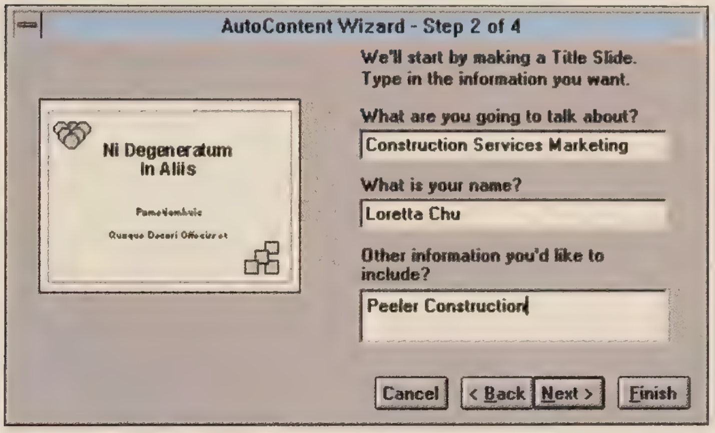
6. Click in the Other Information You'd Like To Include? text box.

7. Type Peeler Construction

Your dialog box should resemble Figure 2-4.

FIGURE 2-4

The completed Step 2 dialog box.



We'll start by making a Title Slide.
Type in the information you want.

What are you going to talk about?
Construction Services Marketing

What is your name?
Loretta Chu

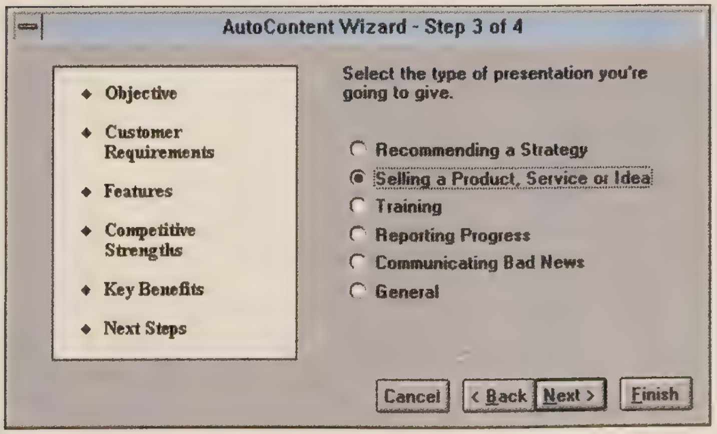
Other information you'd like to include?
Peeler Construction

8. Check the information you have entered. If it is correct, click on the Next button again. If not, correct it.

The Step 3 dialog box appears, as shown in Figure 2-5.

FIGURE 2-5

The third AutoContent Wizard dialog box.



Select the type of presentation you're going to give.

○ Recommending a Strategy
● Selling a Product, Service or Idea
○ Training
○ Reporting Progress
○ Communicating Bad News
○ General

The dialog box for Step 3 lets you select the purpose of your presentation.

9. Read the options.

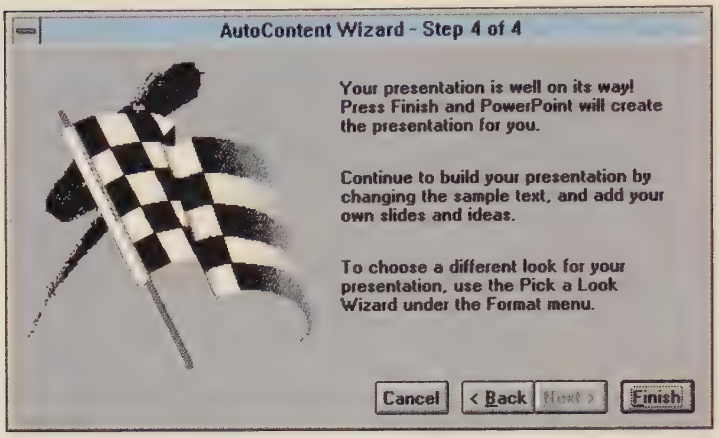
For this example, you can accept the default, Selling A Product, Service Or Idea.

10. Click on the Next button.

The Step 4 dialog box appears, as shown in Figure 2-6.

FIGURE 2-6

The fourth AutoContent Wizard dialog box.



Your presentation is well on its way! Press Finish and PowerPoint will create the presentation for you.

Continue to build your presentation by changing the sample text, and add your own slides and ideas.

To choose a different look for your presentation, use the Pick a Look Wizard under the Format menu.

The fourth dialog box offers information, as the first dialog box did.

11. Read the information in the dialog box.

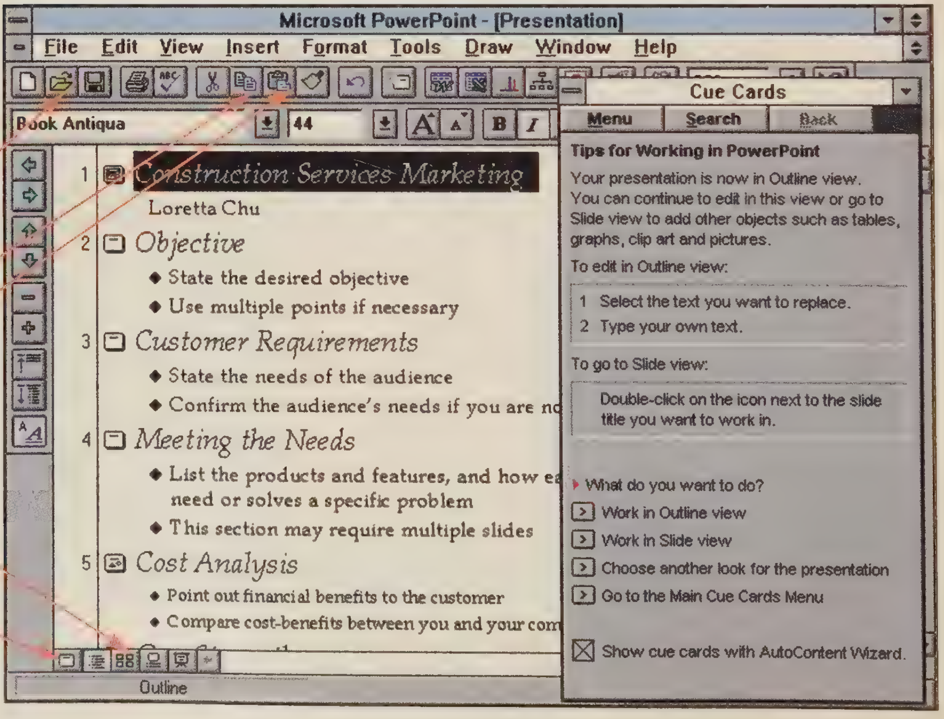
Notice that you can change the look of your presentation by selecting the Pick a Look Wizard. You will work with the Pick a Look Wizard later in this lesson.

12. Click on the Finish button.

After a moment, a sample outline appears, as shown in Figure 2-7.

FIGURE 2-7

The outline created by the AutoContent Wizard.



1 Construction Services Marketing
Loretta Chu
2 Objective
- State the desired objective
- Use multiple points if necessary

3 Customer Requirements
- State the needs of the audience
- Confirm the audience's needs if you are no

4 Meeting the Needs
- List the products and features, and how ea need or solves a specific problem
- This section may require multiple slides

5 Cost Analysis
- Point out financial benefits to the customer
- Compare cost-benefits between you and your com

Tips for Working in PowerPoint

Your presentation is now in Outline view. You can continue to edit in this view or go to Slide view to add other objects such as tables, graphs, clip art and pictures.

To edit in Outline view:

1 Select the text you want to replace.
2 Type your own text.

To go to Slide view:

Double-click on the icon next to the slide title you want to work in.

What do you want to do?

- Work in Outline view
- Work in Slide view
- Choose another look for the presentation
- Go to the Main Cue Cards Menu

☒ Show cue cards with AutoContent Wizard.

Open button

Copy button

Paste button

Slide Sorter View button

Slide View button

MODIFY TEXT IN AN AUTOCONTENT WIZARD PRESENTATION

The AutoContent Wizard has created an outline for you, but it is only a skeleton of an outline. Now you need to complete the presentation by adding your own text.

Notice that a Cue Card is displayed next to the outline. (If a Cue Card did not appear on your screen, that only means that the check box at the bottom of the Cue Card was not selected.) This Cue Card, different from the one displayed when you choose Cue Cards from the Help menu, helps you complete an AutoContent-generated presentation.

1. If the Cue Card is displayed on your screen, read the text on the Cue Card.
2. Double-click on the Control-menu box on the Cue Card window.

   The Cue Card disappears.

EDIT TEXT IN OUTLINE VIEW

Many of the techniques for editing text in Outline view are the same as working with text in Word. For example, if you double-click on a word, you highlight the entire word—even the space after it. This is often faster and more accurate than dragging to highlight a word.

You edit the outline created by the AutoContent Wizard as you would any other presentation. You will begin by replacing Loretta Chu's name.

1. With your mouse pointer, double-click on "Loretta".

   The word is highlighted.

2. Hold down Shift and click at the end of the subtitle (right of the *u*).

   All the subtitle text is highlighted.

3. Type **Jacqueline Wright, Vice President, Construction Services**

   "Loretta Chu" disappears. The text you typed replaces it.

4. Press Enter.

   The cursor moves to the beginning of a new subtitle.

5. Type **Ernest Byers, Vice President, Technical Services**

TIP *You can also click just to the left of the first letter in a title or subtitle and drag past the last letter. Use your preference. The Shift+Click combination is a fast way to highlight long stretches of text.*

Now you will add text to slide 3.

6. Highlight the title for slide 3.

7. Type **Client Requirements**

   "Client Requirements" replaces the title.

8. Highlight the first subtitle.
9. Type **Varied construction services**
10. Highlight the second subtitle.
11. Type **Experienced consultants**
12. Press Enter.

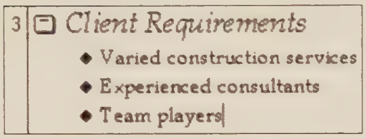
    PowerPoint creates another level 1 subtitle. You can always add a new subtitle this way in Outline view.

13. Type **Team players**

    Slide 3 is complete, as shown in Figure 2-8.

FIGURE 2-8

Slide 3 with new text.



3 Client Requirements
- Varied construction services
- Experienced consultants
- Team players

USE AUTOCONTENT WIZARD PRESENTATION SUGGESTIONS

Notice that the text generated by the AutoContent Wizard helps you keep your presentation on track. For example, it is a good idea to state your objectives early in a presentation, as the AutoContent Wizard suggests in slide 2.

1. Select slide 2, Objective, by clicking on its title.
2. Highlight the slide title, "Objective," by double-clicking on it.
3. Type **Increased Billings**

   Your title replaces the old title.

4. Highlight the first subtitle.
5. Type **15 percent increase in billings**
6. Highlight the second subtitle.
7. Add a second objective by typing **10 percent increase in foreign billings**
8. Add a third, fourth, and fifth objective by typing the following subtitles:

   5 percent increase in large-project billings

   4 percent increase in medium-project billings

   3 percent increase in small-project billings

REVIEW AUTOCONTENT WIZARD PRESENTATION

You can create a good-sized presentation just by using the eight slides created by the AutoContent Wizard. You have seen the outline of the new presentation. Now you can use Slide view to discover the presentation's format.

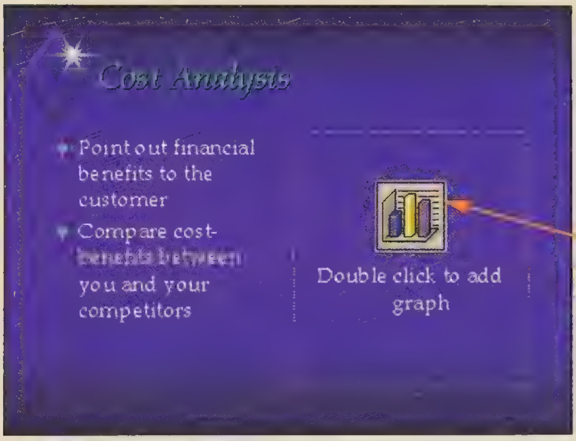
1. Click on the Slide View button to switch to Slide view.

   Slide 2 is displayed because it was the slide displayed in Outline view.

2. Scroll from slide 2 to slide 5.

   Slide 5, shown in Figure 2-9, not only has text, but it has an icon you have not seen before, the graph placeholder. A ***placeholder*** *is a reserved space where information can be inserted. The graph placeholder is included here because a graph would be an excellent way to support your cost analysis.*

FIGURE 2-9
Slide 5 with a graph placeholder.



Cost Analysis

- Point out financial benefits to the customer
- Compare cost-benefits between you and your competitors

Double click to add graph

Graph placeholder

3. Scroll to slide 6.

   Slide 6 has a table placeholder.

NOTE

The graph and table placeholders allow you to easily insert a graph or table. You will work with both placeholders in Lesson 4. For now, just remember that the presentation created by the AutoContent Wizard can incorporate more than text.

RESIZE TEXT

After reviewing the presentation in Slide view you will change the size of the subtitles on slide 2 to the largest size that fits.

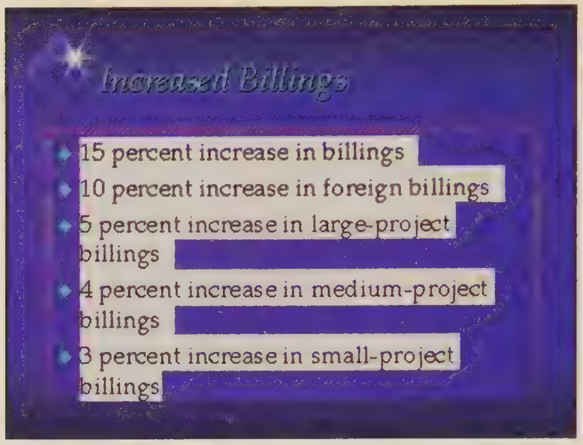
1. Click on a slide 2 subtitle.

   A selection box surrounds the subtitles, and the color background behind the subtitles changes.

2. Highlight the subtitles.

   The text is highlighted, as shown in Figure 2-10.

FIGURE 2-10
The slide 2 subtitles highlighted.



Increased Billings

- 15 percent increase in billings
- 10 percent increase in foreign billings
- 5 percent increase in large-project billings
- 4 percent increase in medium-project billings
- 3 percent increase in small-project billings

*The **Font Size** list box indicates a font size of 32.*

A **font** is a group of characters in one style. The Font Size list box measures font size (the height of characters and symbols) in **points**. One inch = 72 points. In this case, the font size for the highlighted title is 32 points, less than one-half inch tall.

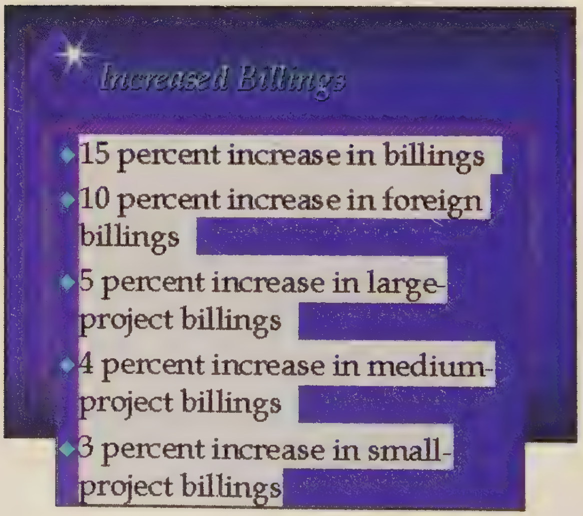
3. Click on the arrow to the right of the Font Size list box.

   A list of point sizes appears. Notice that 32, the current font size of the selected text, is highlighted.

4. Select 40

   The font size changes, dropping the last subtitle off the slide, as shown in Figure 2-11.

FIGURE 2-11
The reformatted subtitles are too large for the slide.



Increased Billings

- 15 percent increase in billings
- 10 percent increase in foreign billings
- 5 percent increase in large-project billings
- 4 percent increase in medium-project billings
- 3 percent increase in small-project billings

You will have to select a smaller font size. This time you will use a different technique to highlight the subtitles.

5. Click in the gray area surrounding slide 2 to turn off the highlighting and close the selection box.
6. Hold down Shift and click on a subtitle.

   A selection box appears, but there is no change in the background color. The Shift+Click method has selected each subtitle (even though the last subtitle is outside the selection box). This method saves you the step of dragging the highlight over five subtitles.

   You will now change the font size to 33.
7. Open the Font Size list box and inspect the font sizes.

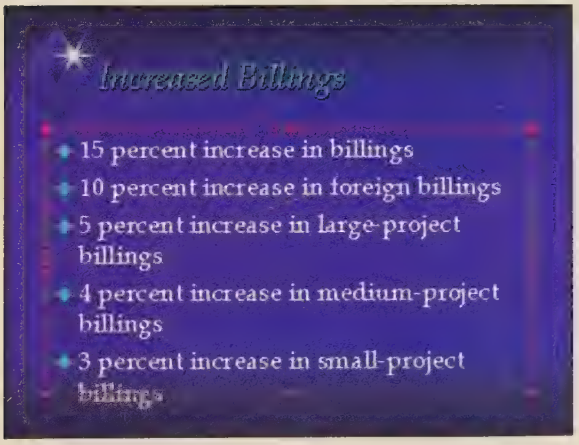
   There is no 33 listed.
8. Click the arrow button again to close the list box.
9. If the current font size is not selected, click the number 40.

   The font size is highlighted.
10. Type 33

    The 40 disappears and so does the highlight.
11. Press Enter.

    The subtitles now fit on the slide, as shown in Figure 2-12.

FIGURE 2-12
The subtitles now fit on the slide.



Increased Billings

- 15 percent increase in billings
- 10 percent increase in foreign billings
- 5 percent increase in large-project billings
- 4 percent increase in medium-project billings
- 3 percent increase in small-project billings

As you have seen, you can select sizes not shown on the Font Size list box.

WARNING

Although you have some leeway in adjusting font size, you should avoid shrinking text smaller than 18 points.

CHANGE TEXT FONT

The font in which text is formatted is as important as the size of the text. Fortunately, changing a character's font is as easy as changing its font size. Immediately to the left of the Font Size list box on the Standard toolbar is the Font list box, which displays the fonts available to you. In the following steps, you will use the Font list box to reformat the subtitles on slide 4.

1. Scroll to slide 4.
2. Hold down Shift and click on one of the subtitles.

   A selection box indicates that both subtitles are selected.

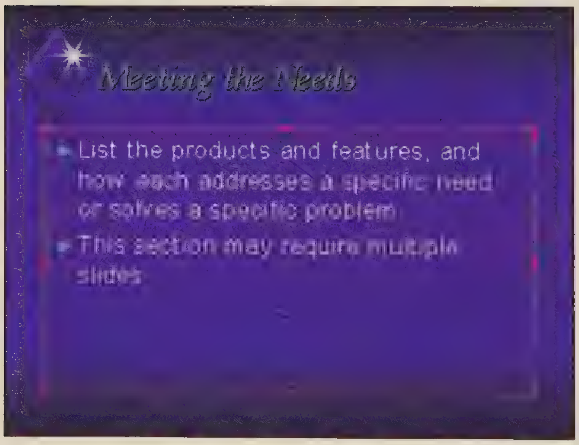
3. Click on the arrow beside the Font list box. A list of fonts appears.

   Notice that the current font is already highlighted.

The highlighted font on your Font list may differ, as will the list of fonts. In part, this list depends on what printer you are using. If Arial is not available, choose another font that appeals to you.

4. Scroll down the list of fonts until you reach Arial.
5. Click on Arial.

   PowerPoint changes the font of the highlighted text to Arial, as shown in Figure 2-13.



Meeting the Needs

- List the products and features, and how each addresses a specific need or solves a specific problem
- This section may require multiple slides

FIGURE 2-13
The highlighted text is formatted in Arial.

The font you choose for your text affects the number of words that will fit on a line.

NOTE

Resizing text and changing fonts is similar in Outline view—you highlight the text you want to change, and then you use the Font list box and Font Size list box to make your choices.

ADJUST TEXT WITH THE RULER

Jacqueline Wright asks that you increase the space between the subtitles and bullets on slide 3. The following steps show you how to accomplish this by changing indents.

1. Display slide 3.
2. Click on a subtitle.

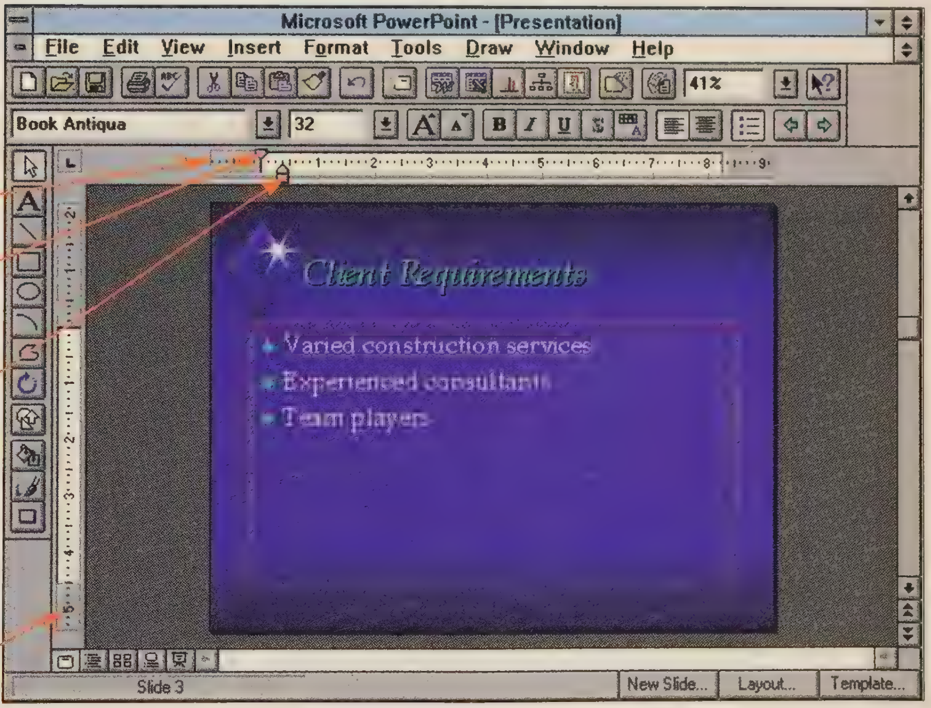
   PowerPoint displays a selection box. The background color changes.

3. If the **ruler** is not already displayed, display it now.
4. Open the View menu and select the Ruler command.

   Although the Ruler command displays both a ***horizontal ruler*** *and* ***vertical ruler****, in this exercise you will work only with the horizontal ruler, shown in Figure 2-14.*

FIGURE 2-14

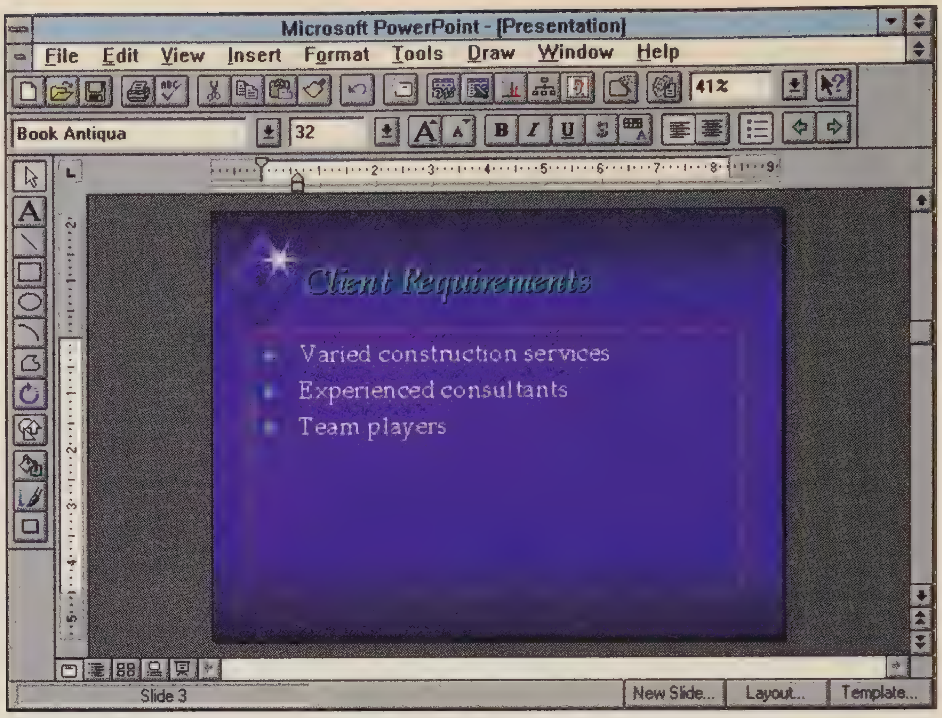
The horizontal and vertical rulers.



The ruler displays two triangles, one above the numbers on the ruler and the other below. These are ***indent markers****. The upper triangle controls the first line of the paragraph. The lower triangle controls the left edge of the paragraph text.*

5. Drag the lower triangle two marks (0.2 inch) to the right.

   There is now more space between the bullet and the subtitle, as shown in Figure 2-15.


Microsoft PowerPoint - [Presentation]
File Edit View Insert Format Tools Draw Window Help
41%
Book Antiqua
32
B I U
Slide 3
New Slide...
Layout...
Template...

Client Requirements

- Varied construction services
- Experienced consultants
- Team players

FIGURE 2-15
There is now more space between the bullet and subtitle.

You will use the ruler again when you work with bullets in the next lesson.

SAVE THE AUTOCONTENT WIZARD PRESENTATION

1. Select the Close command from the File menu.

   A message box asks if you want to save changes to the presentation.

2. Click on the Yes button.

   The Save As dialog box opens.

3. Save the presentation on your Student Data Disk as SALES1.PPT.
4. Click the OK button.

   The Summary Info dialog box opens. If it does not, skip to the next section.

5. In the Title text box, highlight the text already there.
6. Type **Sales Presentation—Peeler Construction**

   The highlighted text is replaced by the text you type.

7. Click the OK button.

   The Summary Info dialog box disappears. The file is saved.

   If you need a break, this would be a good point to stop work.

BEGINNING WITH THE PICK A LOOK WIZARD

Perhaps you already know what you want to say with your text, but you are unsure how to design a presentation that best showcases your ideas. By choosing the Pick a Look Wizard option, you open a Wizard to format your presentation with professionally designed templates. A **template** is a collection of formats that can be applied to a presentation.

OPEN THE PICK A LOOK WIZARD

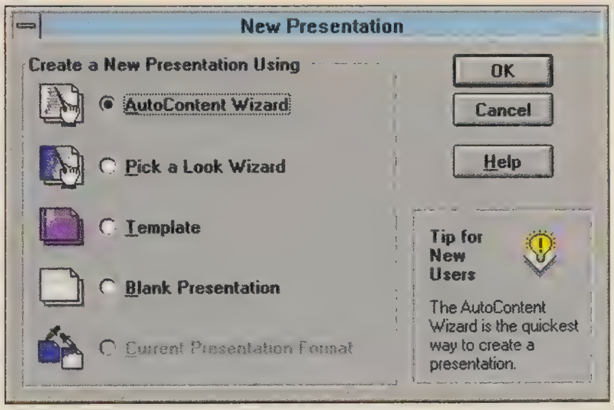
You started the AutoContent Wizard earlier in this lesson by double-clicking on an option in the Startup dialog box, previously shown in Figure 2-1. The Startup dialog box, however, only opens when PowerPoint starts. Fortunately, you can access the Pick a Look Wizard without the Startup dialog box.

1. Click on the New toolbar button.

   The New Presentation dialog box, shown in Figure 2-16, opens.

FIGURE 2-16

The New Presentation dialog box.



New Presentation

Create a New Presentation Using

● AutoContent Wizard

○ Pick a Look Wizard

○ Template

○ Blank Presentation

○ Current Presentation Format

Tip for New Users

The AutoContent Wizard is the quickest way to create a presentation.

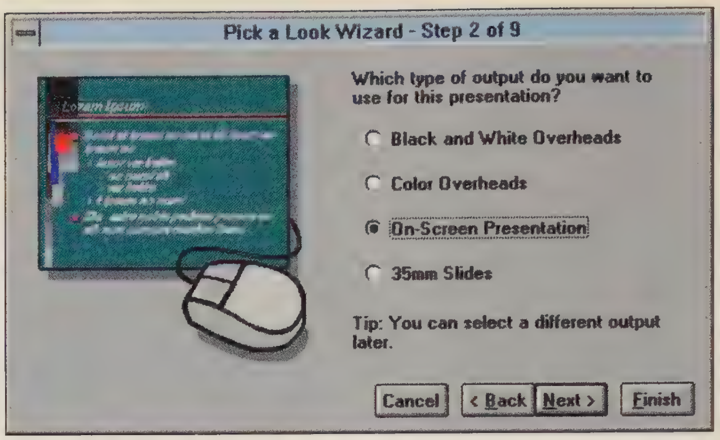
2. Double-click on the Pick a Look Wizard option.

   The informational screen of the Wizard opens. Notice the Title bar; this is step 1 of nine steps.

3. Click on the Next button.

   Another dialog box, titled Step 2 of 9, appears. As shown in Figure 2-17, On-Screen Presentation is the default.

FIGURE 2-17
The Pick a Look Wizard's Step 2 dialog box.



Pick a Look Wizard - Step 2 of 9

Which type of output do you want to use for this presentation?

○ Black and White Overheads
○ Color Overheads
● On-Screen Presentation
○ 35mm Slides

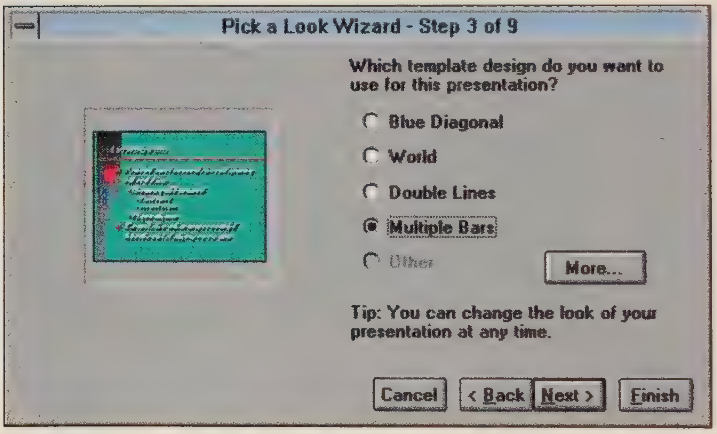
Tip: You can select a different output later.

USE THE PICK A LOOK WIZARD

1. Click the Next button.

   Another dialog box appears, titled Step 3 of 9, as shown in Figure 2-18. Here you select the template to be used for your presentation. If you click the OK button now, your presentation will be formatted using the Multiple Bars template.

FIGURE 2-18
The Pick a Look Wizard's Step 3 dialog box.



Pick a Look Wizard - Step 3 of 9

Which template design do you want to use for this presentation?

○ Blue Diagonal
○ World
○ Double Lines
● Multiple Bars
○ Other

Tip: You can change the look of your presentation at any time.

2. Click on each template option, one at a time.

   The preview changes to reflect the look of each template.

TIP *There are 51 templates available besides the four whose radio buttons are shown in the dialog box.*

3. Click the More button.

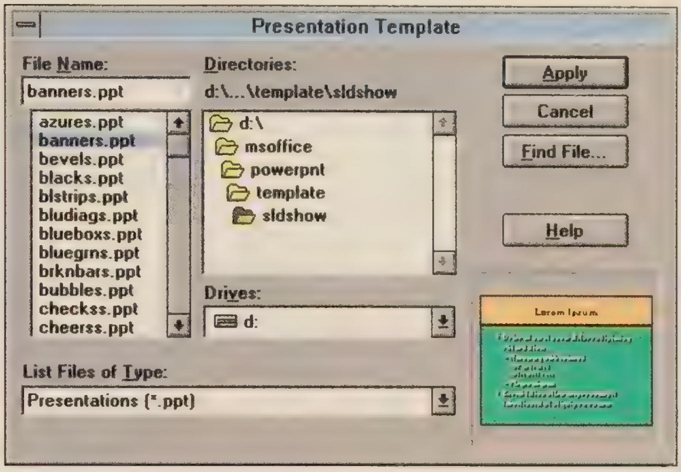
   The Presentation Template dialog box opens. It offers a list of templates the Pick a Look Wizard uses to format your presentation.

4. Select the first template, AZURES.PPT, by clicking on its name in the File Name list box.

The Presentation Template dialog box displays a preview of the AZURES.PPT template.

5. Move the highlight to the second template file, BANNERS.PPT, as shown in Figure 2-19.

FIGURE 2-19
The Presentation Template dialog box.



Presentation Template

File Name: banners.ppt

Directories: d:\...\template\sldshow

List Files of Type: Presentations (*.ppt)

Drives: d:

6. Click the Apply button.

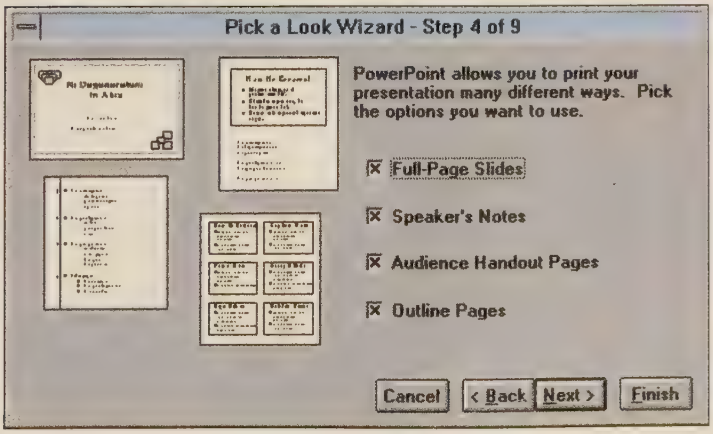
PowerPoint returns you to the previous dialog box.

Notice that the Other radio button, formerly grayed out, is now active. This is because you have added another template to the dialog box. The preview of the template you have selected has also been added to the dialog box.

7. Click on the Next button.

The next dialog box, titled Step 4 of 9, includes four options, as shown in Figure 2-20. Notice, for example, that you can reproduce your presentation as handouts for your audience.

FIGURE 2-20
The Pick a Look Wizard's Step 4 dialog box.



Pick a Look Wizard - Step 4 of 9

PowerPoint allows you to print your presentation many different ways. Pick the options you want to use.

☒ Full-Page Slides

☒ Speaker's Notes

☒ Audience Handout Pages

☒ Outline Pages

8. For this exercise, uncheck all but the first check box by clicking on the final three check boxes. You will be creating full-page slides.

9. Click on the Next button.

   The new dialog box, titled Slide Options, offers three options.

10. Type **Peeler Construction** in the text box.

    The first check box (Name, Company Or Other Text) is checked because you entered new text in the text box.

11. Click on the Page Number check box.
12. Click the Next button.

    The last Pick a Look Wizard dialog box is displayed. Like the first dialog box, it is informational.

13. Select the Finish button.

    The Pick a Look Wizard closes, but it also displays a presentation, as shown in Figure 2-21.

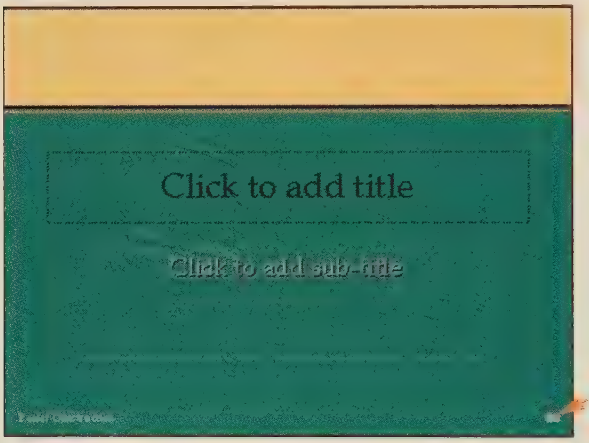


FIGURE 2-21
The slide created by the Pick a Look Wizard.

Page Number placeholder

Unlike the AutoContent Wizard presentation, the Pick a Look Wizard displays its new presentation in Slide view. Another difference is that the Pick a Look Wizard only creates one slide. It does, however, insert the company name in the lower-left corner and the page number in the lower-right corner of the slide, as you requested. These items will appear on every slide.

ADD SLIDES TO THE PICK A LOOK PRESENTATION

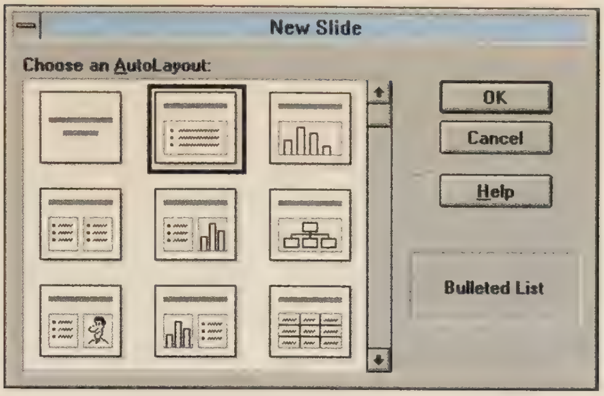
It is simple to add more slides to the brief presentation created by the Pick a Look Wizard.

1. Click on the New Slide button.

   The New Slide dialog box opens, as shown in Figure 2-22.

2. Select the second layout by double-clicking on it.

FIGURE 2-22
The New Slide dialog box.



The dialog box disappears. Another blank appears. Notice that the Status bar shows that the new slide is called slide 2.

You can add as many slides as you want by using this technique. Each slide is created according to the choices you made with the Pick a Look Wizard.

SAVE THE PICK A LOOK PRESENTATION

1. Select the Close command from the File menu.
2. Click Yes and save your changes to the presentation.
3. Name it PROCED.PPT.
4. Save it in the LESSON directory on your Student Data Disk.
5. If the Summary Info dialog box appears, give the presentation the title of **Employee Procedures**. Otherwise, skip this step and the next.
6. Click the OK button.

The Summary Info dialog box disappears. The presentation is saved.

BEGINNING WITH A BLANK PRESENTATION

What if you have completed the content of your presentation and you know how you want your presentation to look? In this case, you can keep more control of your presentation by choosing the presentation creation tool that does the least for you—the Blank Presentation option.

CREATE A PRESENTATION WITH THE BLANK PRESENTATION OPTION

1. Select the New button.

The New Presentation dialog box opens.

2. Choose Blank Presentation, the last active option on the dialog box, by double-clicking on its icon or name.

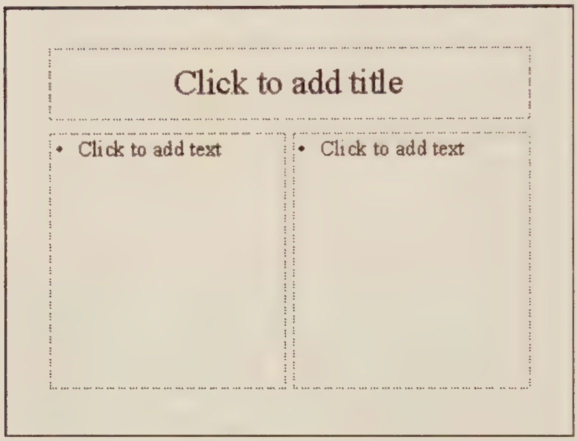
   The New Slide dialog box opens. As a default, the Title Slide layout is selected.

3. Select the fourth layout, 2 Column Text, by double-clicking on the layout.

   As shown in Figure 2-23, a blank slide appears. The Blank Presentation option does not base this presentation on a template, as have the other options on the New Presentation dialog box. That is why the sample slide has no color.

FIGURE 2-23

A blank slide without a template attached.



Click to add title

- Click to add text

- Click to add text

ATTACH A TEMPLATE TO THE BLANK PRESENTATION

Because the Blank Presentation option does not attach a template, you must select one. Without a template, your presentation lacks colors and backgrounds—key elements for visual impact.

1. Click on the Template button, the far-right button on the Status bar.

   The Presentation Template dialog box opens.

2. Select the TRAVELS.PPT template (in the SLDSHOW subdirectory) by double-clicking on its name in the File Name list box.

ADD TEXT TO THE SLIDE

Now that you have attached a template, you need to type the text that will appear on the slide.

1. Click on the Click To Add Title placeholder at the top of the slide.

   A text box (the blue rectangle) indicates where you will add text.

2. Type **Transportation Projects**
3. Click on the Click To Add Text placeholder in the first column.

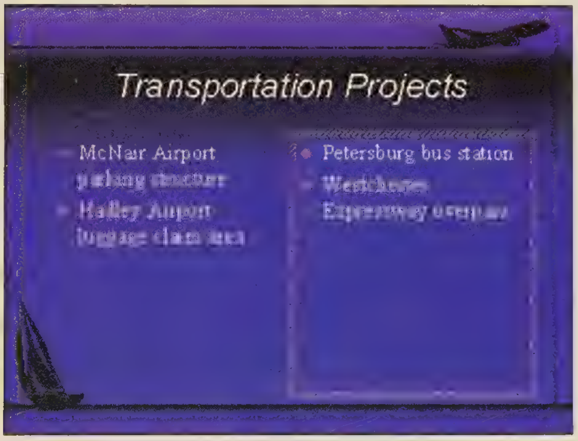
   Once again the cursor blinks inside a text box.
4. Type **McNair Airport parking structure**
5. Press [Enter].

   The text box grows.
6. Type **Hadley Airport luggage claim area**
7. Click on the Click To Add Text placeholder in the second column.
8. Type **Petersburg bus station**
9. Press [Enter].
10. Type **Westchester Expressway overpass**

    Your slide should resemble Figure 2-24.

FIGURE 2-24

Slide 1 after text has been entered.



Transportation Projects

- McNair Airport parking structure
- Hadley Airport luggage claim area

- Petersburg bus station
- Westchester Expressway overpass

11. Save the presentation in the LESSON directory as TRANSPOR.PPT.
12. In the Summary Info dialog box, type **1995 Projects** in the Subject text box, then click on the OK button.

COPY A SLIDE FROM ANOTHER PRESENTATION

You have begun two other presentations in this lesson. One of the slides from the first presentation, SALES1.PPT, would be useful in the TRANSPOR.PPT presentation. In the following exercise, you will copy that slide from your first presentation to the current one.

1. Open the SALES1.PPT presentation.

   The SALES1.PPT presentation is displayed in the presentation window.

2. Select the Arrange All command from the Window menu.

   PowerPoint splits the presentation window into two windows.

3. Click in the presentation window that holds the SALES1.PPT presentation.

   The SALES1.PPT window Title bar is active.

4. Click on the Slide Sorter view button.

   The SALES1.PPT presentation is displayed in Slide Sorter view. Notice that each presentation window has its own view buttons.

5. Click on the window displaying TRANSPOR.PPT.

   Now the TRANSPOR.PPT window Title bar is active.

6. Click on the Slide Sorter view button.

   Both presentations are displayed in Slide Sorter view, as shown in Figure 2-25.

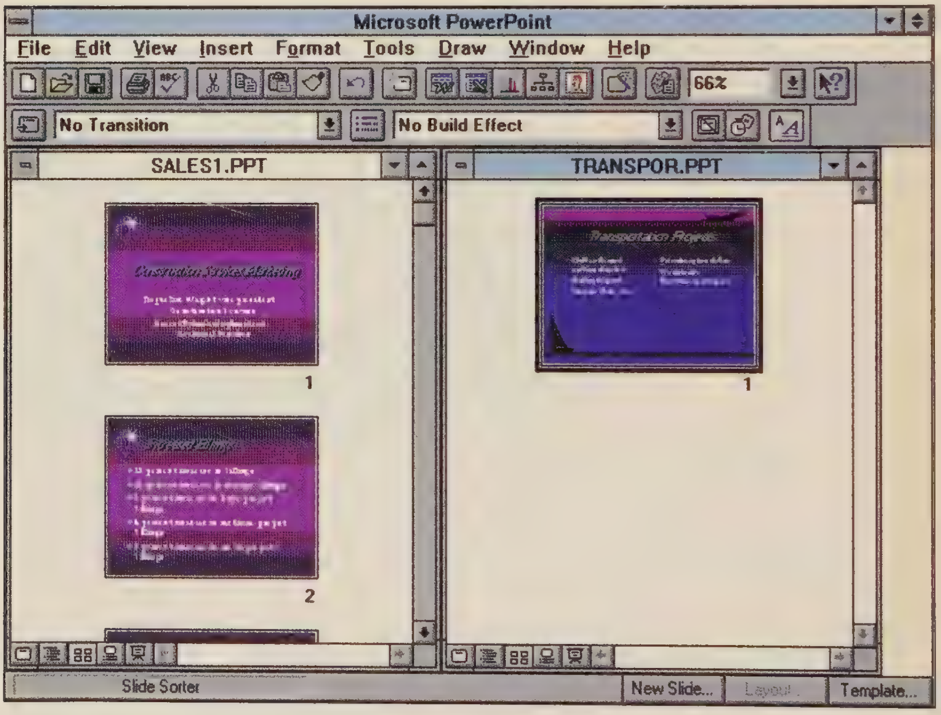


FIGURE 2-25
Two presentations displayed in Slide Sorter view.

7. Click on slide 4 from the SALES1.PPT presentation.

   A black border surrounds the slide.

8. Click on the Copy button on the Standard toolbar.

9. Click the mouse pointer after slide 1 of the TRANSPOR.PPT presentation.

   The mouse pointer becomes a slide-sized blinking line.

10. Click on the Paste button.

Slide 4, Meeting Needs, is pasted after slide 1 of the TRANSPOR.PPT presentation. Its format has been changed to reflect the look of the TRANSPOR.PPT presentation. Its text remains the same. Your screen should resemble the screen shown in Figure 2-26.

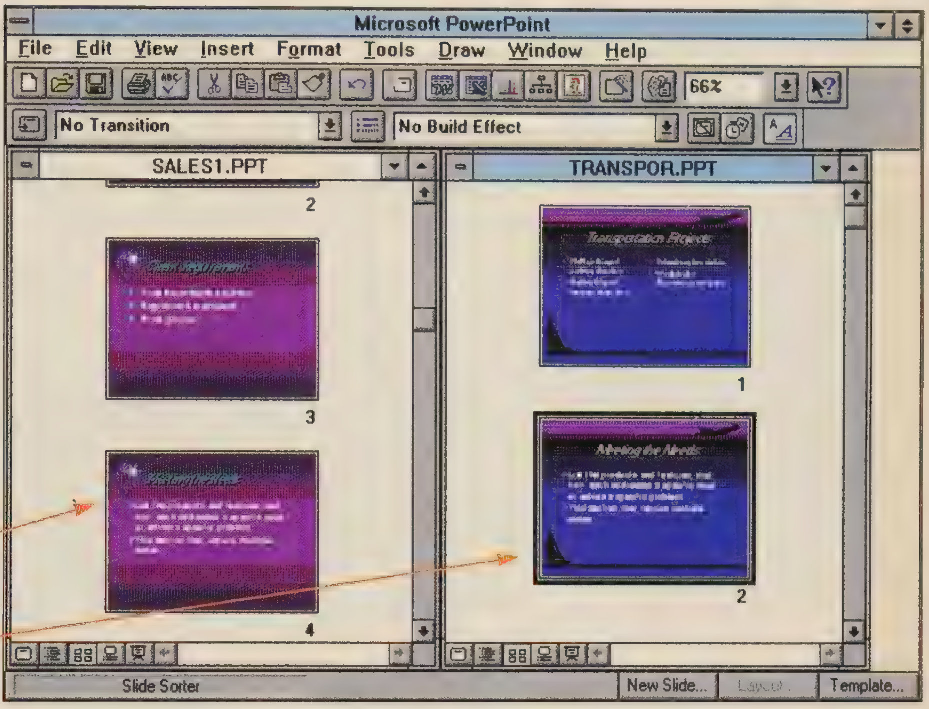


FIGURE 2-26
The copied slide with its new format.

Slide 4 of the sales presentation has been copied to the transportation presentation.

11. Save the changes to TRANSPOR.PPT.

12. Close the window containing the TRANSPOR.PPT presentation.

Only the SALES1.PPT presentation is displayed (still in a reduced-width window).

USING CLIP ART TO ADD EMPHASIS

At times you will want to give extra emphasis to a slide, something special to hold the audience's attention. A quick way to add emphasis is to add **clip art**, ready-to-use graphic images that are installed with PowerPoint.

ADD CLIP ART BY CREATING A NEW SLIDE

The fastest way to add clip art if you are creating a new presentation or adding slides to an existing presentation is to choose one of the Auto-Layouts on the New Slide dialog box that features clip art placeholders.

1. Maximize the SALES1.PPT presentation.

   The presentation now fills a full window.

2. Click on the New Slide button on the Status bar.

   The New Slide dialog box opens.

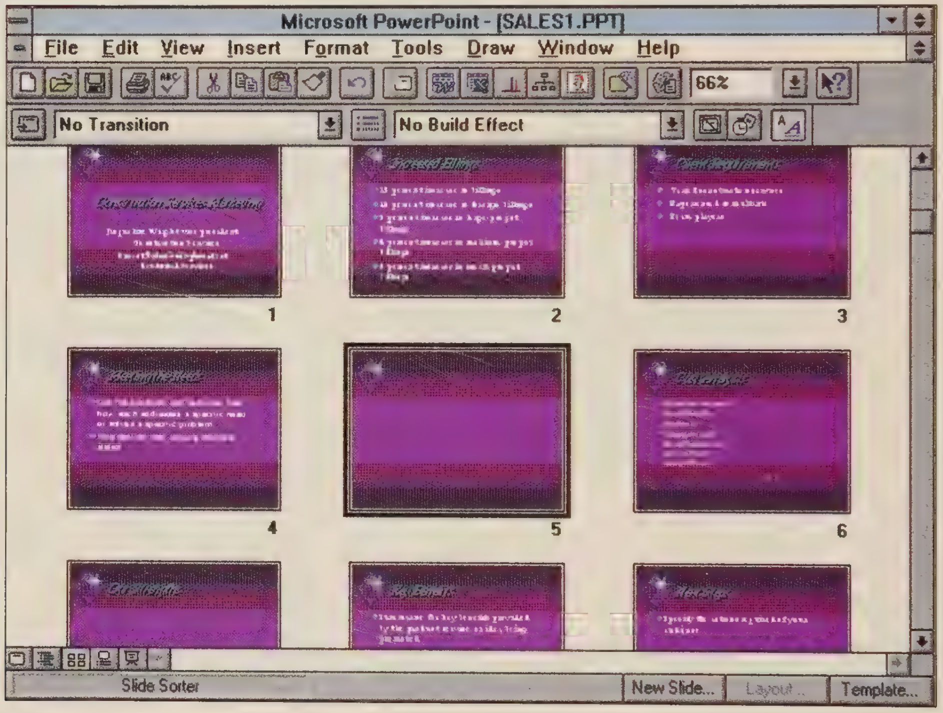
3. Click on the seventh AutoLayout, titled Text & Clip Art. (AutoLayout titles are displayed in the lower-right corner of the New Slide dialog box.)

TIP *Notice that this AutoLayout contains two boxes. The first has a man's face. This is the symbol for clip art in the AutoLayouts. If you double-click on this AutoLayout, you will be creating a slide with a clip art placeholder.*

4. Click on the OK button to select the Text & Clip Art AutoLayout.

   A blank slide is inserted as slide 5, as shown in Figure 2-27.

FIGURE 2-27
A blank slide inserted as slide 5.


Microsoft PowerPoint - [SALES1.PPT]
File Edit View Insert Format Tools Draw Window Help
66%
No Transition
No Build Effect
1
2
3
4
5
6
Slide Sorter
New Slide...
Layout...
Template...

5. Click on the Slide view button.

   Notice the clip art placeholder.

6. This slide will replace slide 7. Type **Our Strengths** as the title of slide 5.

7. Type **Industry leader in medium-size construction** as text for the first bulleted subtitle.

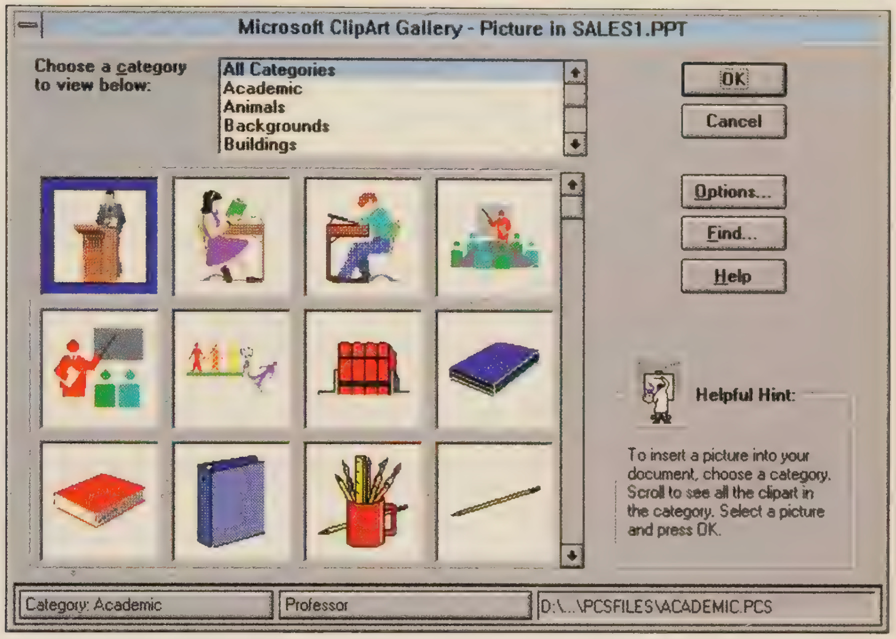
8. Press Enter.

9. Type **State-of-the-art project controls technology**

10. Double-click on the clip art placeholder.

    The Microsoft ClipArt Gallery dialog box opens, as shown in Figure 2-28.

FIGURE 2-28
The Microsoft ClipArt Gallery dialog box.



To insert a picture into your document, choose a category. Scroll to see all the clipart in the category. Select a picture and press OK.

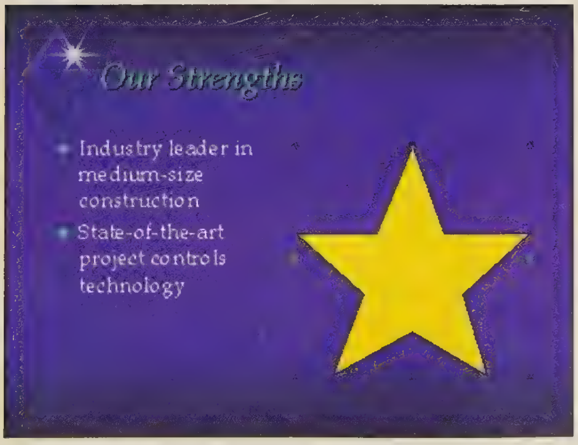
Category: Academic | Professor | D:\...\PCSFILES\ACADEMIC.PCS

11. Use the scroll bars to scroll through the clip art.

12. Double-click on STAR.WMF.

    The Microsoft ClipArt Gallery closes. Your slide is displayed. Now the clip art placeholder has been replaced by the clip art, as shown in Figure 2-29.

FIGURE 2-29
Clip art replaces the clip art placeholder.



Our Strengths

- Industry leader in medium-size construction
- State-of-the-art project controls technology

NOTE

The clip art you have on your system will vary. Word and PowerPoint, for example, come with clip art. If they are installed on your system, you have access to their clip art. If you cannot find STAR.WMF, choose another piece that you like.

RESIZE CLIP ART

The newly installed clip art looks too large. You need to resize it, using the handles surrounding the clip art.

1. Move the mouse pointer over the upper-left handle on the selection box.

   The mouse pointer turns into a two-headed arrow.

2. Click on the handle.

   The two-headed arrow turns into the cross-hairs pointer. A dashed line joins the handles.

3. Drag the cross-hairs diagonally toward the lower-right corner of the slide. Reduce the clip art size by approximately one-third.

   The clip art shrinks proportionally—its height decreases in the same ratio as its width.

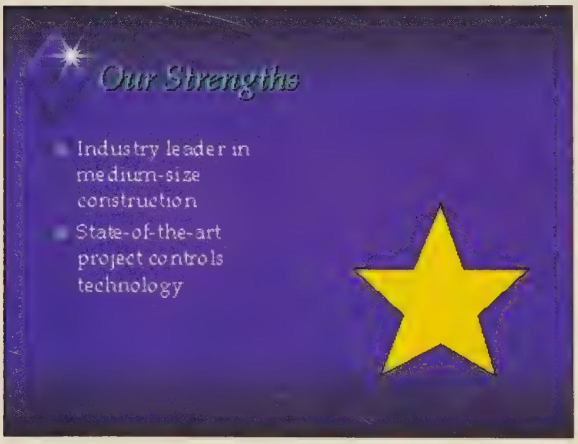
4. Move the mouse pointer off the handles.

5. Click the mouse pointer on the gray area surrounding the slide.

   The handles disappear. Your slide should resemble the slide shown in Figure 2-30.

FIGURE 2-30

The resized clip art.



Our Strengths

- Industry leader in medium-size construction
- State-of-the-art project controls technology

ADD CLIP ART TO AN EXISTING SLIDE

You will not want to add a new slide to your presentation every time you need to add a piece of clip art. The following steps show how you can quickly add clip art to any slide where there is room for clip art.

1. Display slide 9 of the SALES1.PPT presentation in Slide view.

2. Click on the Insert Clip Art button on the Standard toolbar (you can also select the Clip Art command on the Insert menu).

PowerPoint opens the Microsoft ClipArt Gallery.

3. Double-click on the clip art you find appropriate.

   The clip art is inserted on the slide. (The clip art inserted in this exercise is DIAMOND.WMF.) The handles remain visible for you to resize the clip art.

4. Using the steps you learned in the last section, resize the clip art to fit on the slide.

ADDING OBJECTS TO A PRESENTATION

So far, this lesson has shown you several paths to creating a new presentation, how to resize and reformat text, and how to add emphasis with clip art. You can also add emphasis to a slide by adding objects. **Objects** are shapes—for example, rectangles, arrows, or circles. Objects emphasize a slide or a line of text; objects can also hold text.

CREATE A SHAPE USING THE AUTOSHAPES TOOLBAR

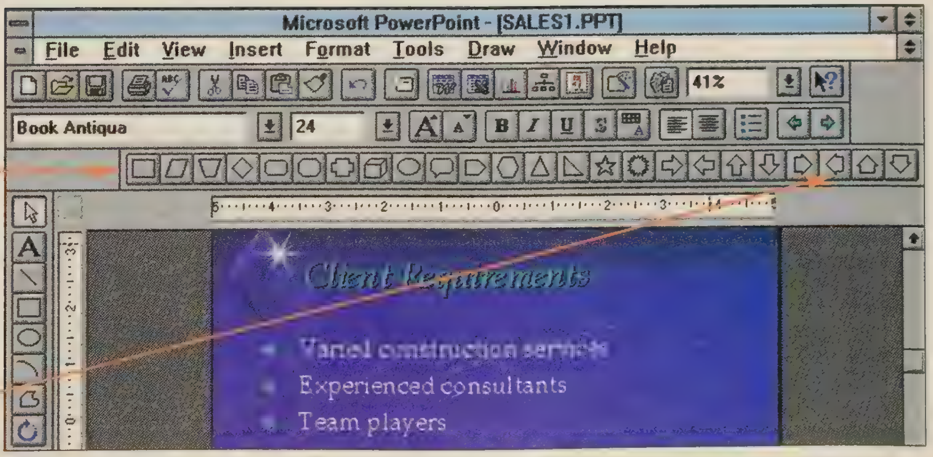
The AutoShapes toolbar offers 24 shapes that can be dropped into any slide.

1. Display slide 3 of the SALES1.PPT presentation in Slide view.
2. Click on any displayed toolbar with your right mouse button.

   A brief menu list appears, listing all the available PowerPoint toolbars.

3. Click on AutoShapes.

   The AutoShapes toolbar opens, as shown in Figure 2-31, in its default position below the Formatting toolbar.



Client Requirements

- Varied construction services
- Experienced consultants
- Team players

FIGURE 2-31
The AutoShapes toolbar.

AutoShapes toolbar

Thick Left Arrow tool

If the AutoShapes toolbar does appear below the Formatting toolbar, skip to step 6. If the AutoShapes toolbar does not appear below the Formatting toolbar, you can drag it there.

4. Click on the AutoShapes toolbar Title bar and drag it below the Formatting toolbar.
5. Release the left mouse button.

   The AutoShapes toolbar is displayed below the Formatting toolbar.

6. Click on the Thick Left Arrow tool, the third button from the right.
7. Move your mouse pointer over slide 3.

   The mouse pointer turns into the cross-hairs pointer.

8. Click the mouse pointer to the right of the first subtitle, drag it down and to the right, and then release the mouse button.

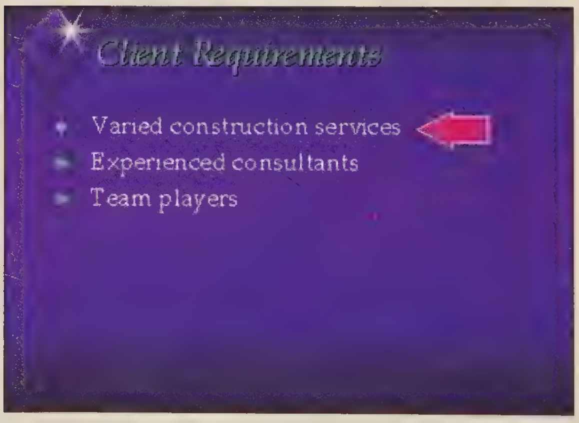
   You create an arrow. If you drag down, the arrow grows thicker. If you drag right, it grows longer.

9. Click on the center of the arrow.

   The border of the arrow becomes a dashed line.

10. Drag the arrow until its point is level with the first subtitle.
11. If you need to, use the handles surrounding the arrow to resize it until it resembles the arrow shown in Figure 2-32.

FIGURE 2-32
The resized thick left arrow.



Client Requirements

- Varied construction services
- Experienced consultants
- Team players

TIP

You use the same process to resize objects as you did to resize clip art. If you drag an object too much in one direction, its shape distorts. In this case, simply redrag the handles until the shape resumes its original shape.

12. Save and close SALES1.PPT. Quit PowerPoint if you are not going on to the Application Projects or the next lesson.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Create new file	Choose File, New	Ctrl+n	🗋
Display Presentation Template dialog box	Choose Format, Presentation Template	Alt+o,p	
Copy slide from another presentation	Choose Edit, Copy; then Edit, Paste	Ctrl+d *or* Ctrl+c, Ctrl+v	⎘ 📋
Select AutoLayout	Choose Format, Slide Layout	Alt+o,o	
Display ClipArt Gallery	Choose Insert, Clip Art	Alt+i,c	
Insert clip art	Choose Insert, Clip Art	Alt+i,c	
Display AutoShapes toolbar	Choose View, Toolbars	Alt+v,t	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. New button	**a.** Represents a graphic or text to be inserted
2. clip art	**b.** Pointer used to resize graphic images
3. double-headed arrow	**c.** Opens the New Presentation dialog box
4. cross-hairs pointer	**d.** A predesigned format
5. AutoLayout	**e.** A predesigned graphic image
6. placeholder	**f.** A Wizard that produces one slide
7. template	**g.** Begins a presentation but does not attach a template
8. Pick a Look Wizard	**h.** A Wizard that produces an outline
9. AutoContent Wizard	**i.** Used to add a new slide to a presentation
10. Blank Presentation	**j.** Pointer used for sizing objects

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which of the following options on the Startup dialog box creates a slide without an attached template?

a. AutoContent Wizard

b. Pick a Look Wizard

c. Template

d. Blank Presentation

2. Double-clicking on the clip art placeholder does what?

a. Inserts a piece of clip art

b. Opens ClipArt Gallery

c. Opens the AutoLayout dialog box

d. Turns on the cross-hairs pointer

3. What is one reason why PowerPoint Wizards are important?

a. Presentations are often created in a hurry.

b. They are not important.

c. Wizards add a page number and date to each slide.

d. Wizards prevent you from making errors in your presentations.

4. When the AutoContent Wizard finishes, what does it do?

a. It displays the Presentation Template dialog box.

b. It displays an outline.

c. It displays the presentation in Slide Sorter view.

d. It displays the presentation in Slide view, with a Cue Card.

5. Which of the following is a *false* statement?

a. Clip art can be added to an existing slide.

b. Clip art can be resized.

c. Clip art uses a placeholder.

d. The PowerPoint program comes without clip art.

6. Which option offers the most automation?

- **a.** AutoContent Wizard
- **b.** AutoLayout Wizard
- **c.** Pick a Look Wizard
- **d.** New Slide Wizard

7. You should avoid shrinking text below which size?

- **a.** 30 points
- **b.** 28 points
- **c.** 24 points
- **d.** 18 points

8. Why might you consider adding clip art to a slide?

- **a.** Audiences don't like to read text.
- **b.** Clip art can add interest.
- **c.** The AutoLayouts require slides to have clip art.
- **d.** Clip art takes up less space than text.

9. Based on this lesson, what is the best view to use when copying slides from one presentation to another?

- **a.** Slide Sorter view
- **b.** Slide view
- **c.** Outline view
- **d.** Slide Show view

10. You enlarge the point size for two subtitles to 36 points. How large are these subtitles in inches?

- **a.** ¼ inch
- **b.** ½ inch
- **c.** ¾ inch
- **d.** 1 inch

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. What is one benefit of the text that the AutoContent Wizard places in its outline?
2. What is the disadvantage of the Startup dialog box?
3. Two classmates have a detailed outline for a 12-slide presentation, but they are unsure how the slides should look. Which presentation creation method would you recommend, and why would you recommend it?
4. What happens to the format of a slide when it is copied into another presentation?
5. When the Pick a Look Wizard is finished, in what view does it choose to display its work?
6. What is a disadvantage of beginning a presentation with the Blank Presentation option?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open SALES1.PPT on your Student Data Disk. Save it as PROJ2-1.PPT in the PROJECTS directory on your Student Data Disk. Switch to Slide Sorter view and delete slide 7. Move to slide 8. Double-click on slide 8. Resize its clip art so it shrinks by one third. Drag it to the lower-right corner of the slide. Save the presentation under its current name. If your instructor has asked that you print your presentation, do so now. Close the presentation.

2. Open CONGRAT.PPT and save it as PROJ2-2.PPT in the PROJECTS directory of your Student Data Disk. Add the following to the slide.

Title	**Congratulations**
Subtitle	**Human Resources Department**

   Change the template attached to the presentation with the BLUEDIAGS .PPT template (found in the SLDSHOW subdirectory). Add a second slide to the presentation, using an AutoLayout with text and a clip art placeholder. Add the following to slide 2.

Title	**A Remarkable Month**
Subtitles	**Nine new employees added to the staff** **Seventeen interviews conducted** **Three orientation seminars held**

   After the subtitles have been entered, reformat them in 30 points. Also reformat the subtitles in a different font. Choose appropriate clip art and resize it as necessary. Save the presentation. If your instructor has asked that you print your presentation, do so now. Close the presentation.

3. Open PROCED.PPT on your Student Data Disk. Save it as PROJ2-3.PPT. Type **Staff Procedures** for the title and **Conferences and Seminars** for the subtitle. Highlight the title and reformat it in 48 points. Highlight the subtitle and reformat it in 36 points. Add a third slide to the presentation, using the New Slide dialog box. Choose an AutoLayout with clip art; then add the following to the slide.

Title	**Staff Procedures**
Subtitles	**Must be project related** **Must be approved before conference or seminar** **Must be approved by client**

Add an appropriate piece of clip art to the slide. Resize it so that it's no larger than the text box containing the subtitles. Add a third slide by selecting the 2 Column Text AutoLayout; then add the following to slide 4.

Title	**Form 291 Approval Process**
Subtitles	**Functional manager signs** **Resident engineer signs** **Senior resident engineer signs** **Client's construction manager signs**

Use the lower indent marker to allow more space between the bullet and text. You can change the indents for all four at once. Save the presentation as PROJ2-3.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

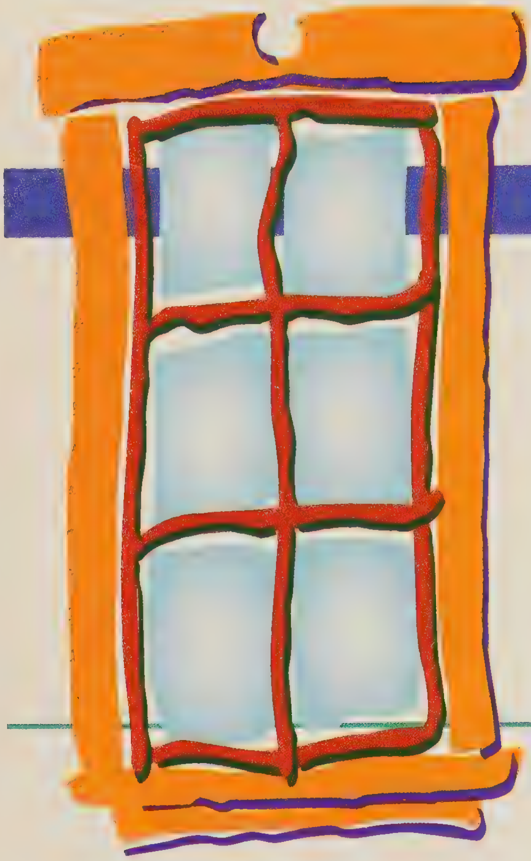
4. Use the AutoContent Wizard (and its Training option) to create a training presentation for your own company. Remember to add your company name in the appropriate AutoContent Wizard text box. On slide 1, enter the topic of the training as the title for this slide. Add text to the remaining slides, making up the required information. For example, on slide 3, list three training topics you want to cover. If it is not displayed, display the AutoShapes toolbar. Use the Seal Tool to place an object on the lower-left corner of slide 3 and the upper-right corner of slide 5. Save the presentation as PROJ2-4.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

5. Choose a partner for the following exercise, in which you will create a presentation to highlight the Peeler Construction 1996 Annual Report. Refer to the following table of requirements before you begin creating your presentation. Choose the creation method you prefer, but write on a separate piece of paper the method you chose and why. The presentation will have eight slides. Use the BRKNBARC.PPT template (in the CLROVRHD subdirectory).

   The following list describes requirements for each slide and provides some text. Where you must add elements, instructions tell you what to add. Text you must type is in bold type. Subtitles are separated by semicolons. The Notes column describes issues for you to consider when formatting the slide. Graphs will be added in another lesson. Save your presentation as PROJ2-5.PPT in the PROJECTS directory. Print the presentation if your instructor has asked you to do so.

SLIDE NO.	TITLE	SUBTITLES	NOTES
1	Add title.	Add one subtitle.	This will be the title slide.
2	Add title.	**Construction services contracts up 23 percent; Construction contracts up 14 percent; Establishment of Oakville office; South Glen Ellen Bridge project 20 days ahead of schedule; Integration of all offices on WAN; New line of credit**	Slide will only contain text.
3	**Construction Services a Hit**	None	Slide will hold large graph.
4	**A Bright Future**	None	Slide will hold large graph.
5	**High Government Concerns**	**Percentage of city managers who believe infrastructure needs repair**	Slide will hold large graph.
6	Add title.	**17 percent of consulting billings come from third world cities**	Add large clip art; center clip art under subtitle.
7	**Projects Completed**	Add three subtitles.	Add appropriate clip art in lower-right corner.
8	Add title.	**Consulting contracts in New Hampshire and Vermont**	Add AutoShapes object to lower-left corner.

Save the presentation as PROJ2-5.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.



LESSON 3

WORKING WITH SLIDE MASTERS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Open the Slide Master.*
- *Use the Slide Master to reformat text.*
- *Change the color of text and bullets using the Slide Master.*
- *Remove bullets from subtitles.*
- *Add repeating elements, such as a company name and page numbers.*
- *Override the Slide Master to accent material in one slide with objects and boxes.*

Educational Benefits

- Partial tuition payment
- Reimbursement for seminars and conferences
- Partial reimburseme for professional organization fees

In previous lessons, you created and modified several presentations. Each presentation had its own look, based on the template attached to it. In this lesson you will use a quick and powerful tool to customize your presentation: the Slide Master. The Slide Master offers a way to keep the overall look of a template, while modifying parts of it to meet your special needs. The Slide Master allows you to change the formatting for text and bullets without having to move from slide to slide. It also allows you to add repeating slide elements and change the colors of those elements. In short, this lesson teaches you how to format a presentation so that it looks exactly as you want it to look.

WHAT IS A MASTER?

A **master** is a collection of placeholders for text and repeating items. A master sits atop the template, which supplies the overall look of a presentation. The master allows you to change a template in one place and have that change reflected throughout a presentation.

Just as a master can override parts of a template, manual formatting can override parts of a master. **Manual formatting** is changes you make to a presentation in addition to the formatting contained in the template or master. If you change the indents on one slide, that is manual formatting. If you change the font size for subtitles on one slide, that is also manual formatting. You would probably not change many elements manually, however. If you needed to make many changes, it would be more efficient to change the master or attach another template.

Each of these formatting methods—template, master, and manual formatting—can override the other. For example, if you attach a new template to a presentation, the master for that presentation is changed—your customized changes are wiped out because the master is now sitting atop a new template. Because each formatting method can change the other, their relationship, as shown in Figure 3-1, is one of three equals.

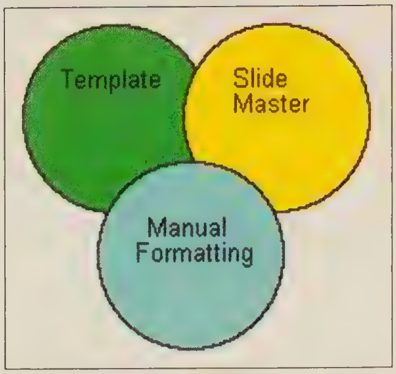


FIGURE 3-1
Templates, masters, and manual formatting can each override the other.

WHY USE MASTERS?

There are two major reasons for using masters:

- The Slide Master standardizes your custom formatting. If you want your slide titles to have a different color and larger font than what the template uses, make those changes in a master. Then you will not have to worry that you missed making the changes on every slide. All slides based on that master will have your custom changes.
- The Slide Master incorporates custom repeating elements that occur in exactly the same location. No template will do this. Manual formatting cannot do this. If Peeler Construction wants its name in the upper-right corner of every slide, then placing the name in the upper-right corner of the master will accomplish that.

You do not need to create masters. Every presentation has four masters attached to it. To work with a master, you only have to open it. Each master is related to a view. Their names are

- Slide Master (for Slide view)
- Outline Master (for Outline view)
- Notes Master (for Notes Pages view)
- Handout Master (for Slide Sorter view)

This lesson concentrates on the Slide Master.

NOTE

The fonts used in this lesson's sample documents may differ from those available on your system.

EDITING THE SLIDE MASTER

When you first open the Slide Master, it looks like every other slide in the presentation—except, instead of text, it has text placeholders. The text placeholders use the formats supplied by the template. In the following steps you will display the Slide Master and use it to override the template-supplied formats.

DISPLAY THE SLIDE MASTER

Peeler Construction has created a presentation to explain its 1996 Employee Benefits. You will modify this presentation as you complete Lesson 4.

1. Start PowerPoint.
2. Open the BENE.PPT presentation on your Student Data Disk.
3. Save the presentation as BENEFITS.PPT.
4. Display the presentation in Slide view.
5. Press Shift and move the mouse pointer over the Slide View button.

   The ToolTips box reveals a new name for the button: Slide Master.

TIP

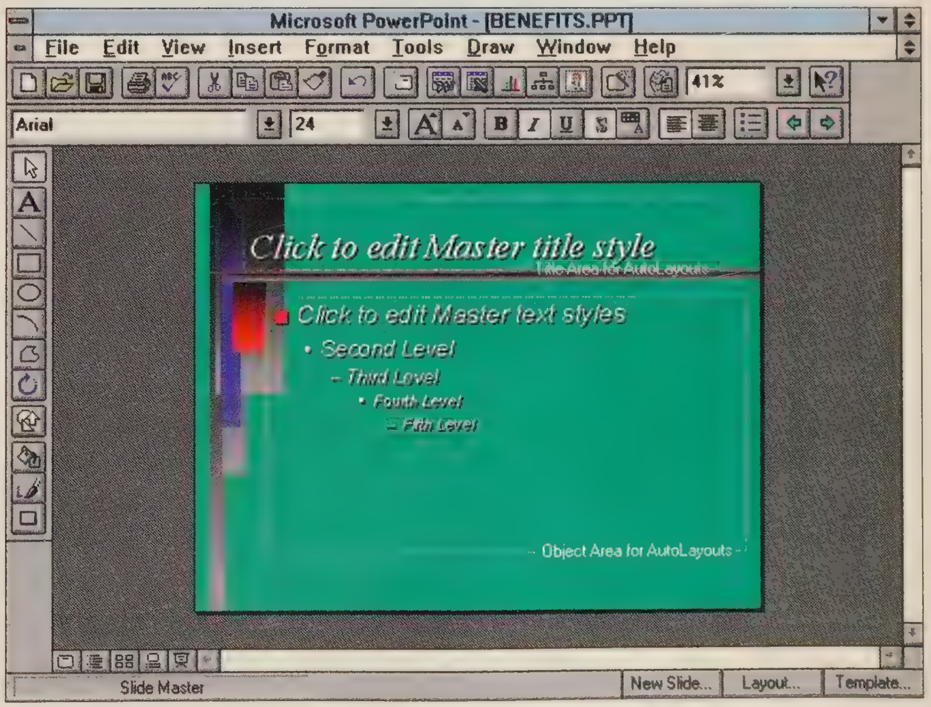
Holding down Shift while moving the mouse over the first four view buttons displays the name of the corresponding master.

6. Hold down Shift and click on the Slide Master button.

   The Slide Master for the BENEFITS.PPT presentation appears, as shown in Figure 3-2.

FIGURE 3-2

A Slide Master.


Microsoft PowerPoint - [BENEFITS.PPT]
File Edit View Insert Format Tools Draw Window Help
41%
Arial
24
Click to edit Master title style
Title Area for AutoLayouts
Click to edit Master text styles
• Second Level
– Third Level
• Fourth Level
– Fifth Level
Object Area for AutoLayouts
Slide Master
New Slide...
Layout...
Template...

Notice that the title and subtitle for this slide have disappeared. Instead, PowerPoint displays placeholders for text. The top placeholder is labeled **Title Area for AutoLayouts,** which is where titles are placed for slides created with AutoLayouts.

REFORMAT TEXT WITH THE SLIDE MASTER

In the following steps you will reformat a slide title in another font. When you are finished, the Slide Master will reformat every title on every slide to match your changes.

1. Click on the text inside the title area.

   A thick selection box surrounds the title area. Any changes you make to text in this area will affect the formatting of every other slide title in the presentation.

2. Select Script from the Font list box on the Formatting toolbar.

   The Font list box closes, and the title text is now formatted in Script.

NOTE

Although the fonts available on your Font list box may be different, Script is a common font. If Script is not available, select another font.

3. Click on the gray area surrounding the slide.

   Your slide should resemble the slide shown in Figure 3-3.

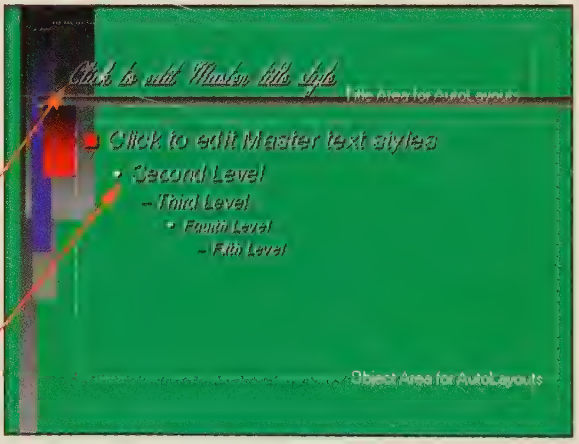

Click to edit Master title style
Title Area for AutoLayouts
Click to edit Master text styles
Second Level
Third Level
Fourth Level
Fifth Level
Object Area for AutoLayouts

FIGURE 3-3
The Slide Master after the title text placeholder has been reformatted.

Notice that the title is now formatted in the Script font.

The text in this area has not changed.

4. Hold down Shift and click on the text in the Object Area For AutoLayouts.

   Once again, handles appear. Using the Shift*+Click method saves you the step of highlighting each subtitle.*

The **Object Area For AutoLayouts** is where subtitles are placed for slides created with AutoLayouts.

5. Open the Font list box and select CGTimes.

   The text in the object area changes font. The text in the title area does not.

USE SLIDE VIEW TO CHECK THE RESULTS

Although the Slide Master shows your changes as they affect sample text, you cannot scroll through a presentation while in Slide Master, because PowerPoint grays out the scroll bars. The best way to review your changes is to scroll through the presentation in Slide view.

1. Select the Slide View button to close the Slide Master.

   Slide 1 appears in Slide view.

2. Scroll through the presentation.

   Notice that each slide title is now formatted in Script, and each subtitle is now formatted in CGTimes.

3. Return to slide 1.

CHANGE BULLETS WITH THE SLIDE MASTER

Sometimes you may like the overall look of a template, but prefer your own choice for a design element. In the following steps you will change the shape and color of bullets to match your preferences.

1. Hold down Shift and select the Slide View button.

   The Slide Master appears.

2. Hold down Shift and click on the text in the object area.

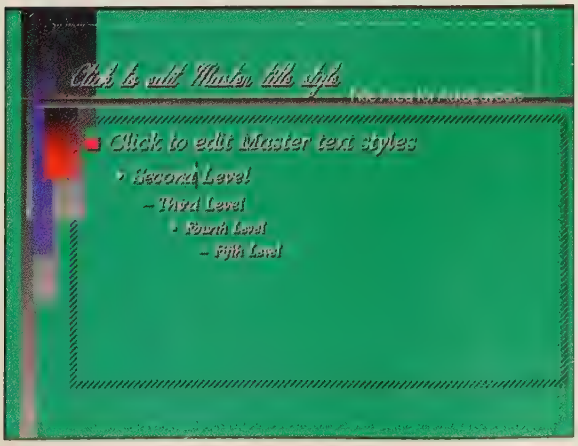
   Handles appear on the dashed line surrounding the text.

3. Click on the Second Level text.

   The handles disappear. A box composed of diagonal lines now surrounds the object area. This indicates that you have selected only a part of the text in the object area. As shown in Figure 3-4, the cursor is at the end of the word Second. *Changes you make now will only affect this level of text throughout the presentation.*

FIGURE 3-4

The Second Level text placeholder has been selected.



Click to edit Master title style

- Click to edit Master text styles
  - Second Level
    - Third Level
      - Fourth Level
        - Fifth Level

NOTE *Even though there are no subtitles on slide 1, the Slide Master still displays sample text for five levels of subtitles.*

4. Select the Bullet command from the Format menu.

   The Bullet dialog box appears.

5. Select Wingdings from the Bullets From list box.

   This list box includes the fonts available on the Font list box. The Wingdings font is usually installed with Windows.

6. When the Wingdings bullets are displayed, click on the first bullet in the third row.

   The bullet is highlighted in color.

7. Open the Special Color list box.

   The Special Color list box displays eight sample colors. (The box may display duplicates of several colors.) These are colors PowerPoint believes will look best with the template currently selected for your presentation.

8. Click on the blue sample.

9. Click on the OK button.

   The Bullet dialog box closes. The Slide Master now displays a new bullet in a new color.

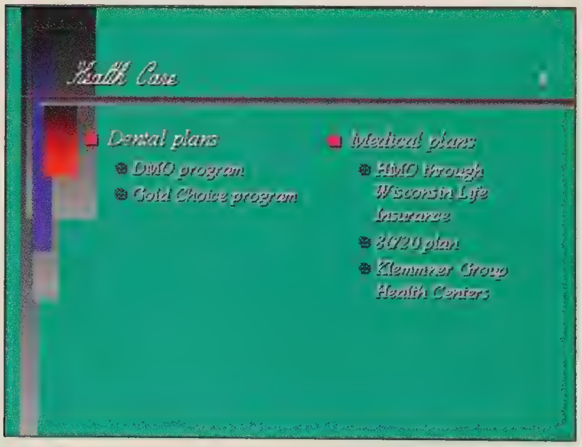
10. Click on the Slide View button.

    Slide 1 reappears.

11. Display slide 3.

    Slide 3 should resemble Figure 3-5.

FIGURE 3-5
The level 2 subtitles with a new bullet.



Health Care

- Dental plans
  - DMO program
  - Gold Choice program
- Medical plans
  - HMO through Wisconsin Life Insurance
  - 80/20 plan
  - Klemmer Group Health Centers

CHANGE INDENTS WITH THE SLIDE MASTER

Suppose that, after examining slide 3, you decide the new bullets are too close to the text on this slide. In Lesson 2 you changed the indent for one level of subtitles. Now you will change the indents for several levels of subtitles. This kind of change is an ideal task for the Slide Master.

1. Display the Slide Master by holding down Shift and clicking on the Slide View button.
2. Hold down Shift and click in the object area of the Slide Master.

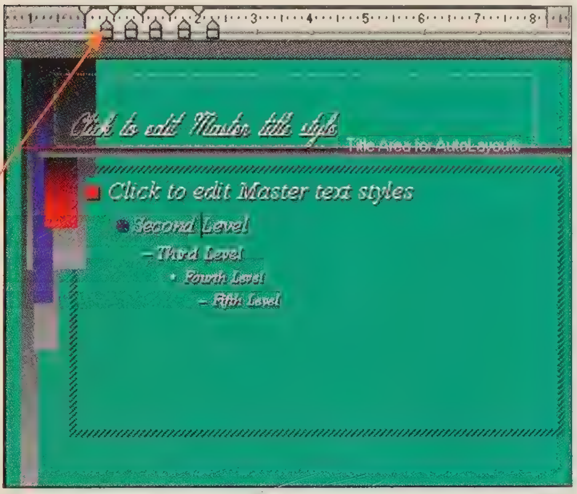
   Handles appear on the box surrounding the object area.
3. Click on the Second Level text.

   The diagonal-line box surrounds the object area.
4. If the ruler is not displayed, select Ruler from the View menu.

   The ruler is displayed, as shown in Figure 3-6.

FIGURE 3-6

The Slide Master and ruler displayed.


1
2
3
4
5
6
7
8
Click to edit Master title style
Title Area for AutoLayouts
Click to edit Master text styles
Second Level
Third Level
Fourth Level
Fifth Level

Ruler shows indent markers for five levels of subtitles.

As you learned in Lesson 2, the top indent marker (triangle) controls the indent of the first line of the paragraph. The bottom indent marker controls the left edge of the remaining lines of the paragraph. The **margin marker** (small box) moves both triangles at once. The five sets of indent markers control the indents for the five levels of subtitles.

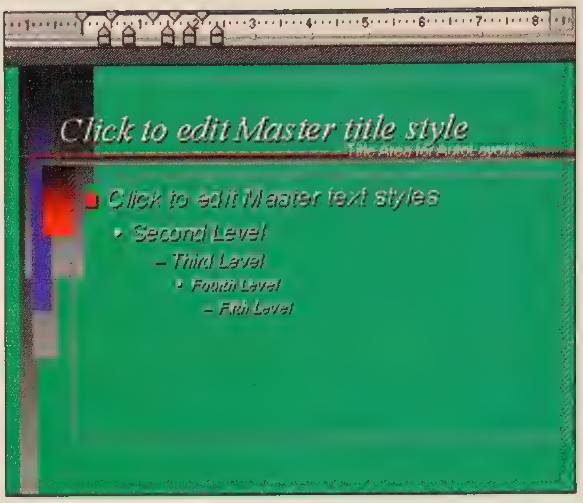
You will begin by adjusting the rightmost indents first.

5. Drag the last bottom indent marker two marks to the right.

   The Fifth Level text moves to the right.
6. Repeat step 5 for the next two bottom indent markers.

   The Fourth Level and Third Level text moves to the right, as shown in Figure 3-7.

FIGURE 3-7
The three rightmost margin markers have been moved.

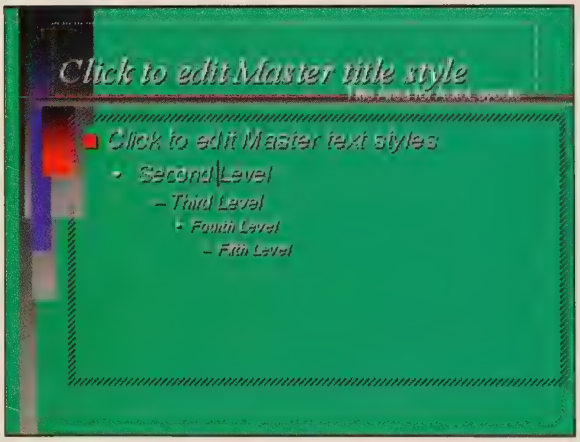

1
2
3
4
5
6
7
8
Click to edit Master title style
Click to edit Master text styles
Second Level
Third Level
Fourth Level
Fifth Level

Now you have reached the second set of indent markers from the left. This is the indent you need to adjust.

7. Drag the bottom indent marker that is second from the left two marks to the right.

   The Second Level text moves to the right. Because you did not adjust the top triangle, the bullet does not move. Your screen should resemble the screen in Figure 3-8.

FIGURE 3-8
The new position of the Second Level placeholder.


Click to edit Master title style
Click to edit Master text styles
Second Level
Third Level
Fourth Level
Fifth Level

TIP

When working with indent markers and margin markers, it is easy to make a mistake. If you do, click on the Undo button on the Standard toolbar. The marker will return to its original position. Selecting the Undo button (shown at left) undoes the last editing function.

8. Click on the Slide View button to close the Slide Master.
9. Display slide 3.

   There is now more space between the blue bullets and the following text. Every other second-level subtitle will be the same.

10. Close the ruler by selecting the Ruler command from the View menu.

USING THE SLIDE MASTER TO ADD REPEATING ELEMENTS

Not only can you use the Slide Master to quickly customize text formatting and indents, you can also use it to create text and objects that repeat in exactly the same location on every slide.

ADD TEXT LABELS

Peeler Construction wants its name to appear on every slide in its presentations. In the following steps, you will add the company's name and tell the Slide Master to print it on every slide.

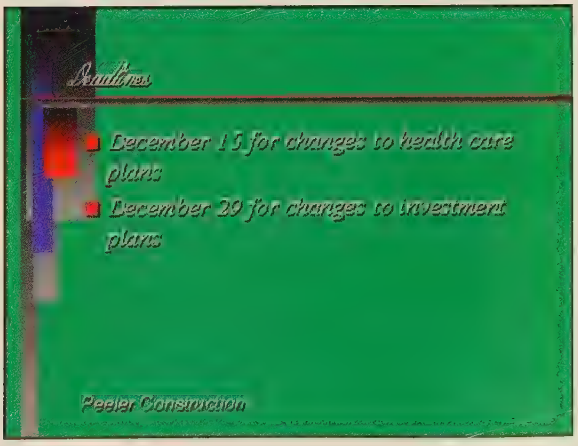
1. Open the Slide Master by holding down Shift and clicking on the Slide View button.
2. Click on the Text Tool button on the Drawing toolbar.
3. Move the mouse pointer over the slide, below the object area.

   The mouse pointer turns into the text pointer.
4. Click the text pointer below the box surrounding the object area and at the left side of the box.

   The pointer becomes a cursor. It blinks inside a new selection box.
5. Type **Peeler Construction**

   The selection box expands as you type. (The selection box border may be faint.)
6. Click on the Slide View button to close the Slide Master.
7. Scroll through the presentation to slide 9.

   Peeler Construction appears on every slide, as shown in Figure 3-9.



Deadlines

- December 15 for changes to health care plans
- December 29 for changes to investment plans

Peeler Construction

FIGURE 3-9
Peeler Construction now appears on every slide.

CHANGE TEXT LABEL COLOR

In many cases, repeated text looks best if it appears in a color that is different from the rest of the text. In the following steps, you will employ the Slide Master to change the color of the repeating company name to yellow.

1. Click on "Peeler Construction" on slide 9.

   *You cannot select the text. Repeating text is considered a **background item**—something you want to appear on every slide in a presentation. Background items can only be selected in the Slide Master.*

2. Open the Slide Master.
3. Click on "Peeler Construction."

   A selection box surrounds the text.

4. Highlight the text by dragging across it with the text cursor.
5. Select the Text Color button on the Formatting toolbar.

   Eight sample colors appear, just as when you opened the Special Color list box on the Bullet dialog box.

   Notice that yellow does not appear as a sample color. Since you want to format the company name in yellow, you will have to choose that color from a much larger selection.

6. Click on the Other Color area of the samples.

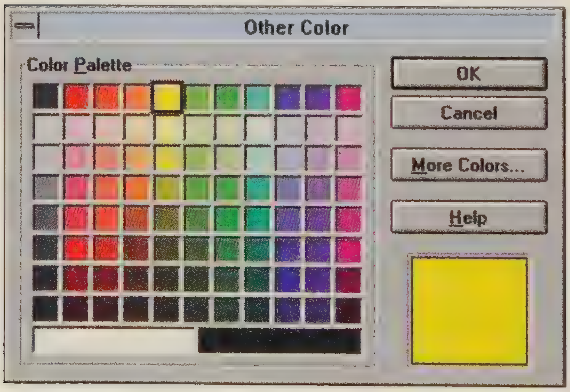
   PowerPoint displays the Other Color dialog box.

7. Click on the yellow sample, the fifth sample in the first row.

   A black border surrounds the sample. The preview box in the lower-right corner of the dialog box displays the selected color, as shown in Figure 3-10.

FIGURE 3-10

The Other Color dialog box with a color selected.



8. Click on the OK button.

   The Other Color dialog box closes. "Peeler Construction" is now in yellow.

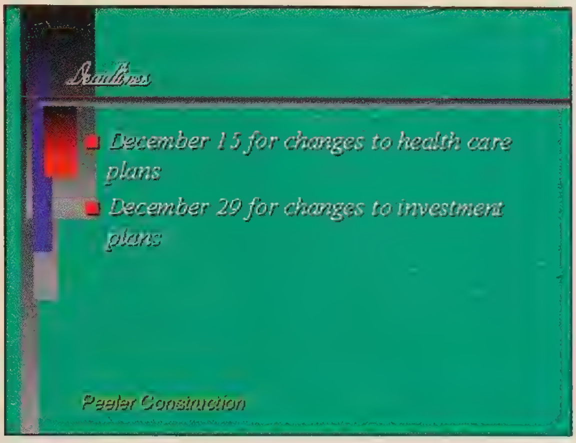
TIP *The next time you select the Text Color button, yellow will appear as an option for this presentation.*

9. Close the Slide Master.

Slide 9 should resemble the slide in Figure 3-11.

FIGURE 3-11

Peeler Construction is now in yellow.



Deadlines

- December 15 for changes to health care plans
- December 29 for changes to investment plans

Peeler Construction

Any text in the presentation can be changed by using the technique you followed when changing text label color.

ADD PAGE NUMBERS

Page numbers make it simple for the presenter and the audience to track where they are in a presentation. Page numbers also make completing the presentation easier. By referring to page numbers, it is easier to tell which slide needs changes. (Although the presentations in these lessons do not exceed 10 slides, some presentations have 40 to 50 slides.)

1. Open the Slide Master.
2. Click the mouse pointer in a blank area outside the title and object areas.
3. Choose the Page Number command from the Insert menu.

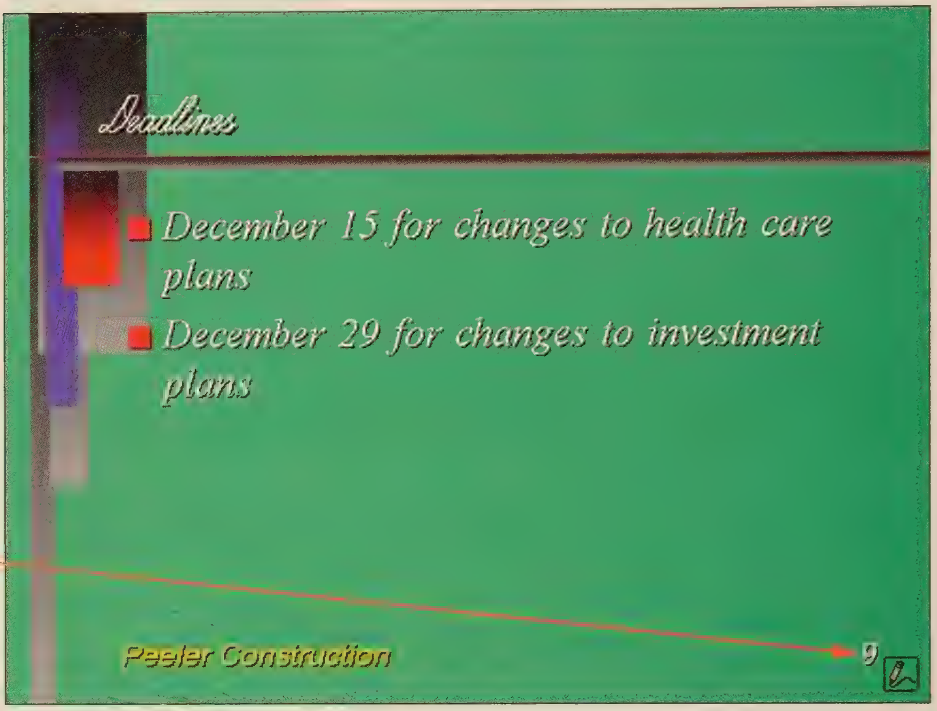
   A selection box appears in the center of the object area. In it are two pound signs. The pound signs and selection box compose the ***page number object****. When you print your presentation, this object will be replaced with the correct page number.*

4. Drag the page number object so that it is in the lower-right corner of the slide.

5. Close the Slide Master by clicking on the Slide Show View button.

   The Slide Show view of slide 9 shows the correct page number. This is a way to preview page numbers without having to print out a slide. Your screen should resemble the screen in Figure 3-12.

FIGURE 3-12
Slide 9 with the correct page number.



Deadlines

- December 15 for changes to health care plans
- December 29 for changes to investment plans

Peeler Construction

9

Page number

6. Press Esc to return to Slide view.

ADD AN OBJECT

Suppose the Human Resources Department asks you to emphasize that deadlines will not be extended for returning benefits paperwork. You decide to add a repeating warning inside a repeating object. You will begin by checking to see that there is room for a repeating object.

1. Display slide 6.

   Because it has little open space, it is a good slide to check. If you can find room on this slide, the object will probably fit on the other slides.

   There appears to be room in the upper-right corner of the slide.

TIP *You should try to get an idea of where the open spaces are on your slides before you add a repeating object.*

2. Open the Slide Master by holding down Shift and clicking on the Slide View button.

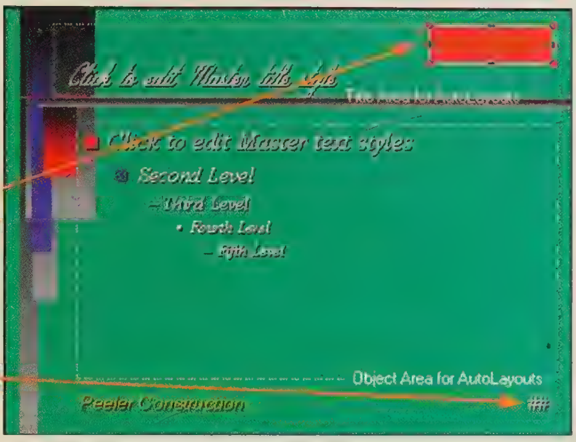
3. If the AutoShapes toolbar is not displayed, click on a toolbar with the right mouse button.

4. When the list of toolbars appears, click on "AutoShapes."

5. When the AutoShapes toolbar appears, click on the fifth button, the Rounded Rectangular Tool.

6. Click on a spot in the upper-right corner of the slide and drag the cross-hairs arrow until you have a rounded rectangular object, as shown in Figure 3-13.

FIGURE 3-13
A rounded rectangular object.


Click to edit Master title style
Title Area for AutoLayouts
Click to edit Master text styles
Second Level
Third Level
Fourth Level
Fifth Level
Object Area for AutoLayouts
Peeler Construction
##

Drag to create this box.

Page number object

7. Select the Text Tool from the Drawing toolbar.

8. Click in the upper-left corner of the object.

9. Type **Deadlines will not**

10. Press Enter.

11. Type **be extended.**

12. Click in the gray area surrounding the slide to remove the selection box around the text.

    The selection box disappears. The first line of text is too long for the object.

13. Click on the text.

    The selection box reappears.

14. Highlight the text and reduce its point size to 18.

    Depending on the exact size of the box you created, the text may or may not fit.

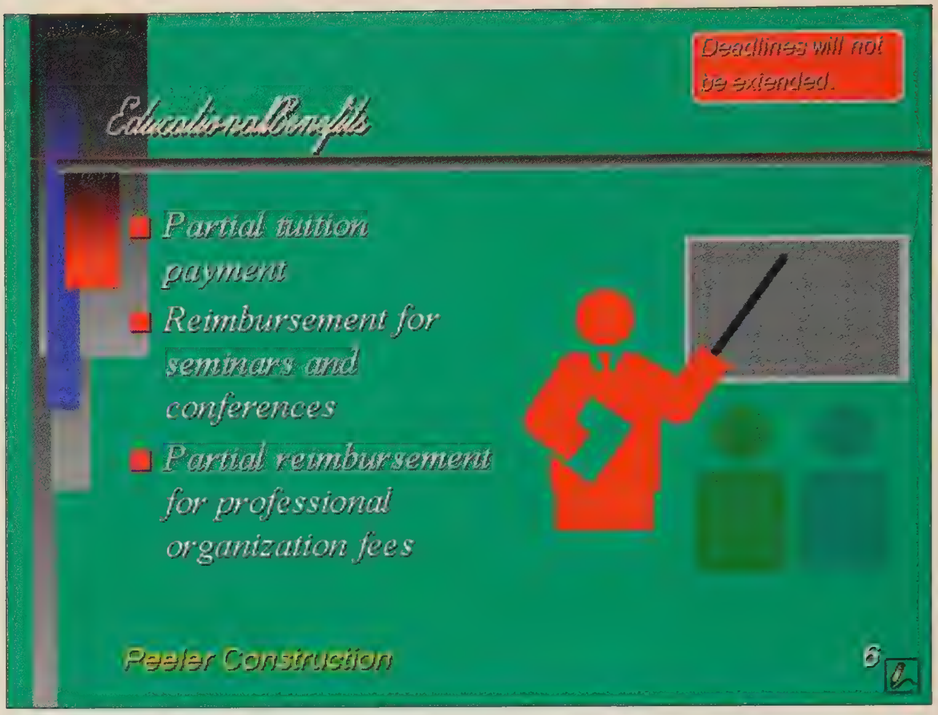
15. Click on the border of the object.

16. Use the handles to resize the object so that it fits the text.

17. Click on the Slide Show view button to check slide 6.

    Your slide should resemble the slide shown in Figure 3-14.

FIGURE 3-14
Text has been added to the object.



Educational Benefits

Deadlines will not be extended.

- Partial tuition payment
- Reimbursement for seminars and conferences
- Partial reimbursement for professional organization fees

Peeler Construction

6

OVERRIDING THE SLIDE MASTER

You will not always want to standardize everything that appears in a presentation. Sometimes, you will want to change or accent only one slide. In the following steps you will make changes that override the Slide Master.

REMOVE BULLETS

As a default, PowerPoint adds bullets to subtitles. Usually this is a quick and easy way of emphasizing points under a major idea or title. There may be times, however, when bullets are inappropriate. For example, bullets are not traditionally used when there is only one subtitle.

1. Press `Esc` and display slide 4 in Slide view.
2. Click on the subtitle.

   Because the text is a subtitle, PowerPoint has given it a bullet. Slide 4 has only one subtitle, however, and a single bullet looks odd.
3. Select the Bullet command from the Format menu.

   PowerPoint opens the Bullet dialog box.
4. Click on the Use A Bullet check box.

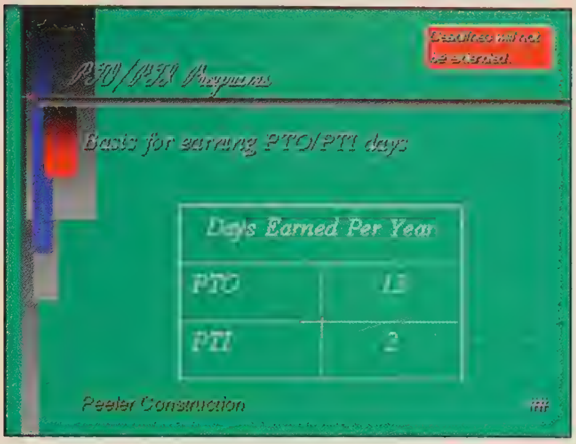
   The X in the check box disappears.

5. Click on OK.

   The dialog box closes. The bullet beside the subtitle in slide 4 has disappeared. Your screen should resemble Figure 3-15.

FIGURE 3-15

The bullet has been removed from the subtitle.



Deadlines will not be extended.

PTO/PTI Programs

Basis for earning PTO/PTI days

Days Earned Per Year	
PTO	15
PTI	2

Peeler Construction

ADD AN OBJECT TO ONE SLIDE

After reviewing the presentation, you believe that having the warning about deadlines on every slide dilutes its impact. After all, the warning does not pertain to every slide. Instead, you will make the warning appear only on slide 9.

1. Scroll to slide 9.
2. Open the Slide Master.
3. Click on the text in the rounded rectangle.

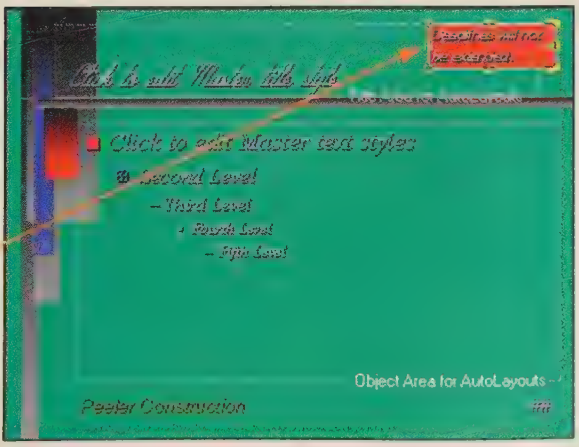
   The selection box appears around the text.

4. Hold down Shift and click on the rounded rectangle's border.

   Yellow handles appear around the border. The selection box disappears, as shown in Figure 3-16. This means the text and the object are ***grouped****—they can be moved as one object.*

FIGURE 3-16

The text and object have been grouped.



Object and text are grouped.

Deadlines will not be extended.

Click to edit Master title style

- Click to edit Master text styles
  - Second Level
    - Third Level
      - Fourth Level
        - Fifth Level

Object Area for AutoLayouts

Peeler Construction

5. Click on the Cut button.

   The object and its text vanish.

6. Close the Slide Master.

7. When slide 9 appears, click on the Paste button.

   The rounded rectangle (with text) reappears at the same location it was in the Slide Master.

8. Click in the gray area surrounding slide 9 to deselect the rounded rectangle.

   The yellow handles disappear.

9. Scroll through the presentation.

   Only slide 9 has the warning about deadlines.

ADD A BOX TO ONE SLIDE

The Human Resources Department wants employees to consult the resources listed on slide 8 before visiting the Human Resources Department. They ask you to highlight those subtitles. In the following steps, you will add a box around the subtitles.

1. Display slide 8.

2. Click on one of the subtitles on slide 8.

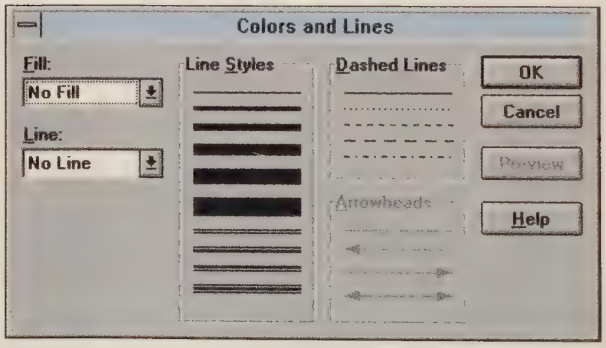
   A selection box surrounds the subtitles.

3. Select Colors And Lines from the Format menu.

   The Colors And Lines dialog box appears, as shown in Figure 3-17.

FIGURE 3-17

The Colors and Lines dialog box.



Fill: No Fill

Line: No Line

4. Open the Line list box.

   Eight sample colors appear, as shown in Figure 3-18, including the yellow you added when changing the color of the repeating text label. In addition, a No Line option is available and surrounded by a black border. This is the current selection.

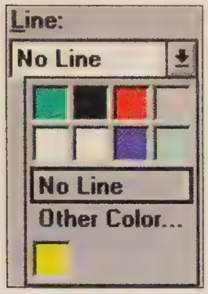
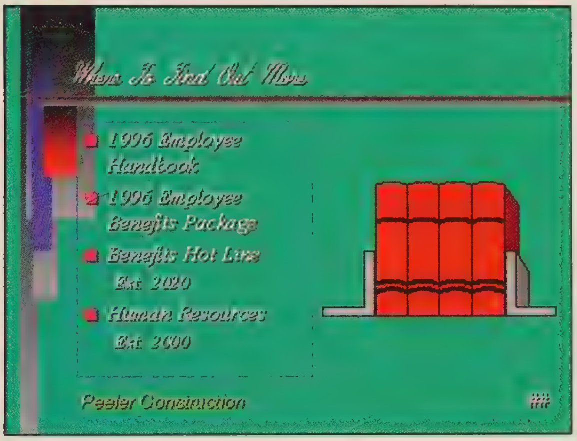


FIGURE 3-18
The Line list box.

5. Select the blue sample.
6. Click the OK button.
7. Deselect the selection box by clicking on the gray area surrounding the slide.

   The subtitles on slide 8 have a blue box surrounding them, as shown in Figure 3-19.


Where To Find Out More

- 1996 Employee Handbook
- 1996 Employee Benefits Package
- Benefits Hot Line
  Ext. 2020
- Human Resources
  Ext. 2000

Peeler Construction

FIGURE 3-19
The subtitles are surrounded by a blue box.

8. Save BENEFITS.PPT.
9. Print the presentation if your instructor or lab assistant asks you to do so.
10. Close BENEFITS.PPT.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Display Slide Master	Choose View, Master, Slide Master	Alt+v,m,s	Shift+▭
Select all text in title or object area	Shift+Click on text		
Turn off selection box	Click on gray area surrounding slide	Esc	
Close Slide Master	Click on Slide View button or choose View, Slides	Alt+v,s	▭
Open Bullet dialog box	Choose Format, Bullet	Alt+o,b	
Undo	Choose Edit, Undo	Ctrl+z	↶
Open Text Color samples	Choose Format, Font	Alt+o,f	A
Open Other Color dialog box	Choose Format, Font, click on Color list box arrow, click on Other Color	Alt+o,f, Alt+c, ↓	A
Add page number	Choose Insert, Page Number	Alt+i,u	
Group objects	Shift+Click borders or choose Draw, Group	Alt+d,g	
Open Colors And Lines dialog box	Choose Format, Colors And Lines	Alt+o,l	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. master	**a.** A collection of placeholders for text and repeating items
2. Slide view	**b.** Overrides a master or template
3. Wingdings	**c.** Used to check results of Slide Master
4. Undo	**d.** An element that repeats on each slide
5. Manual formatting	**e.** A triangle that controls the indent of a subtitle
6. background item	**f.** Reverses last editing function
7. Text Color button	**g.** Indicates an option has been selected
8. black border	**h.** Displays color samples
9. indent marker	**i.** Supplies an overall look when attached to a presentation
10. template	**j.** A collection of symbols used for bullets

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. When would you change title text color with the Slide Master?

- **a.** When the color wasn't available from the Text Color button
- **b.** When you want the change to appear on only one slide
- **c.** When you want the change to appear on every slide
- **d.** When the text appears within an object

2. What happens when you click on the gray area surrounding a slide or Slide Master?

- **a.** A brief list of commands appears.
- **b.** The Slide Master closes.
- **c.** An area or text box is deselected.
- **d.** Nothing happens.

3. How can you check that the correct page number has been placed on a slide?

a. Display the slide in Slide Show view.

b. Display the slide in Slide Sorter view.

c. Display the slide in Slide view.

d. Open the Slide Master.

4. What is one reason why masters are important?

a. They offer more color choices.

b. They can repeat elements.

c. They make printing a presentation much easier.

d. They make more templates available.

5. When PowerPoint inserts the page number object, where does the object first appear?

a. In the center of the object text area

b. In the upper-right corner of the slide

c. In the lower-right corner of the slide

d. In the lower-left corner of the slide

6. What is an advantage of manual formatting?

a. It means fewer steps than working with a template or Slide Master.

b. It allows you to override a template or Slide Master.

c. It is the easiest way to add repeating elements.

d. It is the only way to reformat a title.

7. Where is the Colors And Lines command located?

a. The Format menu

b. The Draw menu

c. The Insert menu

d. The Colors And Lines button

8. What must you do before you can change the indent for a subtitle?

a. Open the Slide Master.

b. Click the cross-hairs pointer on the subtitle.

c. Display the ruler.

d. Click on the margin marker.

9. Which dialog box do you use to change the color of a bullet?

- **a.** The Bullet Color dialog box
- **b.** The Bullet dialog box
- **c.** The Color And Lines dialog box
- **d.** The Object Color dialog box

10. What are the two areas on a Slide Master called?

- **a.** Title Area For AutoLayouts and Object Area For AutoLayouts
- **b.** Slide Master Title Area and Slide Master Object Area
- **c.** Slide Master Title Area and Slide Master Subtitle Area
- **d.** The areas are not labeled.

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. You want to adjust the first set of indent markers on a ruler by moving the set five spaces to the right. Why might it be best to start at the last indent markers?
2. Why would you want to look at all the slides in a presentation before you add a repeating object?
3. Why wouldn't you want every element in the object area to have a box around it?
4. Why would you want to group an object and the text within it?
5. How do you scroll through a presentation without closing the Slide Master?
6. What steps would you follow to remove a black box surrounding the subtitles of one slide?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open BENEFITS.PPT and save it as PROJ3-1.PPT in the PROJECTS directory of your Student Data Disk. If necessary, switch to Slide view. Open the Slide Master. If you have access to another script font, replace the current font with a new script font. If you do not have access to another script font, choose another font. Increase the title size by 2 points. Check your changes by scrolling through the presentation. Change the bullets for the PROJ3-1.PPT presentation so that the First Level bullets are blue, and the Second Level bullets are red. Change the title text color so that slides 3, 6, and 9 have blue title text. Save the presentation. If your instructor has asked that you print your presentation, do so now.
2. Add a new slide after slide 8. Title this slide **What You Need To Return.** Add the following two subtitles:

   Benefits Selection Sheet

   Employee Information Update

   Add a warning to this slide:

   Every employee must return these documents.

   Choose an object to hold the text. Place the object on an open area of the slide.

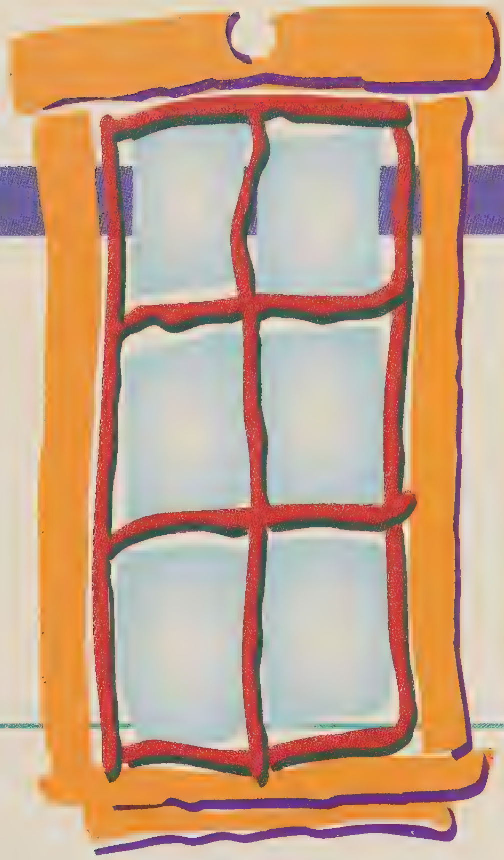
   There is a spelling error in the Subject text box in the Summary Info dialog box. Correct it and then save the PROJ3-1.PPT presentation as PROJ3-2.PPT. If your instructor has asked that you print your presentation, do so now.
3. Save the PROJ3-2.PPT presentation as PROJ3-3.PPT. Attach the BRKNBARS.PPT template to the PROJ3-3.PPT presentation. On a separate piece of paper, note what changes the new template made. What did not change? Save the PROJ3-3.PPT presentation. If your instructor has asked that you print your presentation, do so now. Close the presentation.
4. Open the LIBRARY.PPT presentation and save it in the PROJECTS directory on your Student Data Disk as PROJ3-4.PPT. In this exercise, you will finish creating a presentation summarizing the Final Cost and Schedule Report for the Graduate Research Library Computer System. The presentation has six slides. You will need to create a title slide, adding text you deem appropriate. You will also need to create a slide explaining the causes for the project being completed over schedule and over budget (slide 5 may help you with this) and place it before the current slide 4. When the slides have been created, review the presentation. Add a recurring symbol to the Slide Master. Add the name of the library to the recurring symbol, making sure the symbol does not overlay any

text. Delete the bullet from any slide that has only one subtitle. On slide 3, demote the last three subtitles one indent level. Change the bullets for these subtitles to a red diamond, and then increase the space between the bullets and the subtitles by 0.2 inch. On slide 6, place a nonrepeating object on the slide. In that object, type **Good News**. Change the title text color to yellow. Save the presentation. If your instructor has asked that you print your presentation, do so now. Close the presentation.

5. Choose one or two partners for this exercise, in which you will use the following paragraph as the basis for a presentation. The presentation must have at least eight slides. All slides must be labeled "Environmental Services." Next to "Environmental Services" must be the department symbol, a tree. Feel free to add more details if you need them. To conserve computer time, sketch the presentation on paper, including text placement, slide order, and recurring elements.

> The Liberty County Environmental Services Department has begun a new water testing program required by the state. Environmental Services Department inspectors will visit every residence and business that draws water from a well. There are approximately 2,700 of these residences and businesses in Liberty County. Environmental Services Department inspectors are testing for a pollutant that may have entered the water table. The pollutant, THX 3, was a waste product from the old Liberty County cannon factory. THX 3 in high concentrations has been found to harm the human immune system. The Environmental Services Department believes that high concentrations do not exist in the Liberty County water table. Inspectors will need to turn off each well pump for 1 hour before they take a sample. Sampling each well takes about 90 minutes. During this time, businesses and residences have no access to their wells. The Environmental Services Department inspectors are willing to conduct inspections before and after business hours. Although the testing program is free to residents and businesses, they must make an appointment with county inspectors within the next six months, or they will be in violation of the new state regulation. Businesses or residences in violation of the regulation will be fined. Fines can be up to $3,000. Wells that have traces of THX 3 may need a special filter added; however, details of the filtration program are not complete.

This presentation will be given at town meetings. Its goal is to explain the new program and answer questions residents and businesspeople have about it. Environmental Services asks that you emphasize two points: the telephone number for making inspection appointments (which you will create) and the six-month deadline for making inspection appointments (a date you will choose). After you have completed the presentation, save it as PROJ3-5.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.



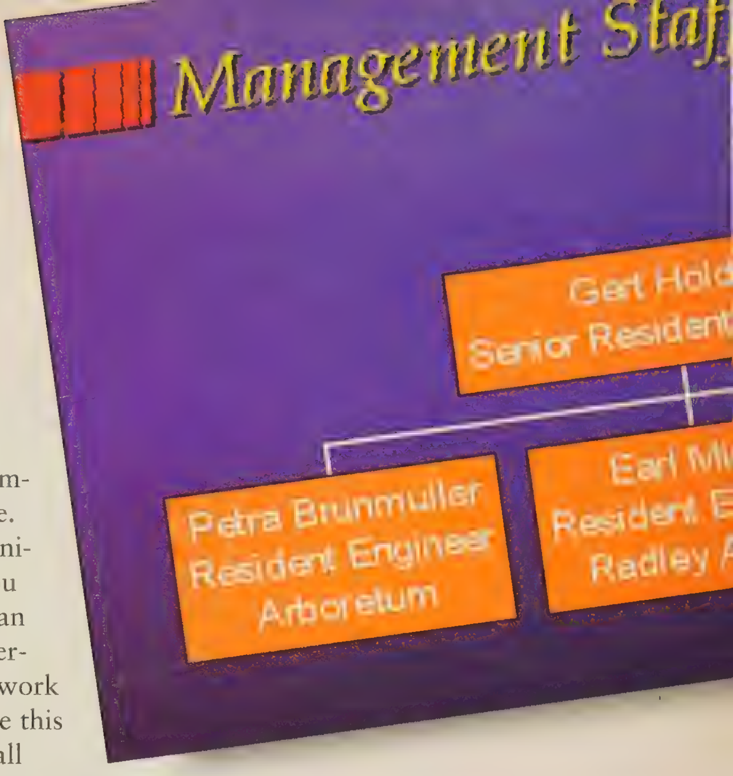
LESSON 4

ADDING GRAPHS, TABLES, AND ORGANIZATION CHARTS

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Explain the value of graphs and charts in a presentation.*
- *Create a graph.*
- *Import Excel data and use it to create a graph.*
- *Change the chart type of the graph you have created.*
- *Add and edit a table.*
- *Insert and edit an organization chart.*


Management Staf

Gert Hold
Senior Resident

Petra Brunmuller
Resident Engineer
Arboretum

Earl Mi
Resident E
Radley A

Although you inserted clip art and other objects in previous lessons, the presentations you created and modified rely primarily on text to express ideas. In this lesson, you will use new tools to communicate with your audience. These tools are graphs, organization charts, and tables. You will also see how to import an Excel worksheet into a PowerPoint datasheet, saving you work and time. After you complete this lesson, you will be able to call upon all the major PowerPoint tools to convey your ideas.

INSERTING A GRAPH

Like Microsoft Word, PowerPoint uses Microsoft Graph to create graphs and insert them into your document. In the following sections, you will enter information into a datasheet, use that information to create a graph, and then edit the graph.

START MICROSOFT GRAPH

Peeler Construction has created a presentation to explain to its executives the commitments in staff and equipment the company has made to current projects. You will begin by adding graphs.

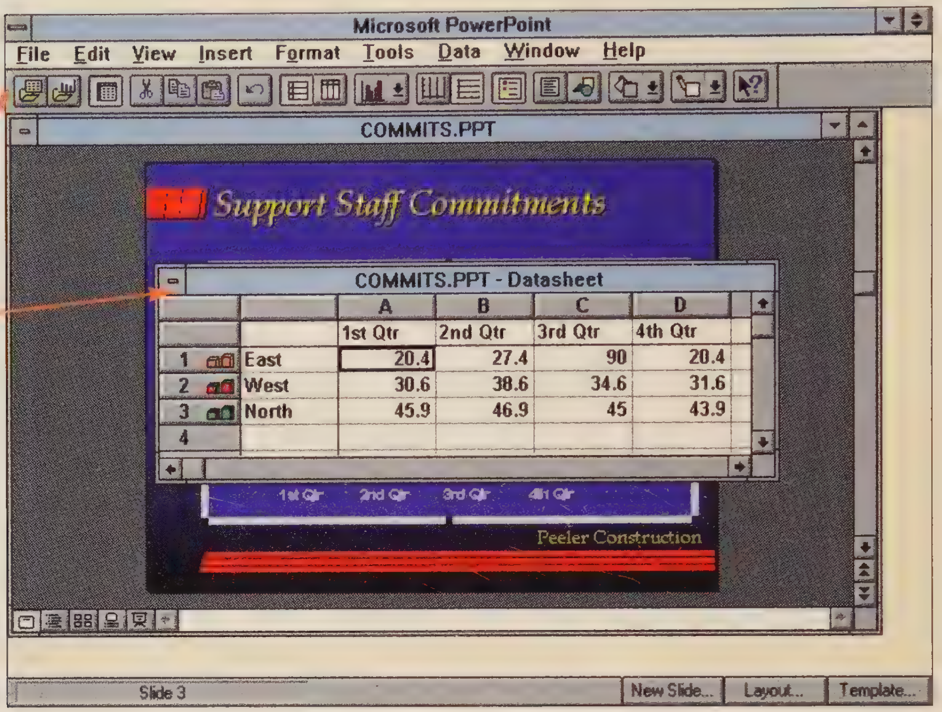
1. Start PowerPoint.
2. Open the COMM.PPT presentation on your Student Data Disk.
3. Save the presentation as COMMITS.PPT. If the Student Data Disk is full, save the presentation to your OVERFLOW disk.
4. Display the presentation in Slide view.
5. Display slide 3 in the Presentation window.

   Slide 3 has the graph placeholder you saw in Lesson 3.

6. Double-click on the graph placeholder.

   Selection handles surround the object area of slide 3. Microsoft Graph opens (although no copyright or logo appears). After a moment, a datasheet appears.

A **datasheet** in PowerPoint is equivalent to a worksheet in Excel. Underneath the datasheet is a chart, partially obscured by the datasheet, as shown in Figure 4-1.



		A	B	C	D
		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
1	East	20.4	27.4	90	20.4
2	West	30.6	38.6	34.6	31.6
3	North	45.9	46.9	45	43.9
4					

FIGURE 4-1

A Microsoft Graph datasheet.

Standard Graph toolbar

Graph window

NOTE

Microsoft Graph is similar to the chart feature in Excel. Both offer you a step-by-step method to convert data into charts.

Besides the appearance of the datasheet and chart, two other things have changed. The Standard, Formatting, and Drawing toolbars have been replaced by the Standard Microsoft Graph toolbar, and the Menu bar shows the names of Graph's menus.

EDIT THE DATASHEET

The information displayed in the datasheet is only a placeholder. Follow the steps below to enter the following information into the datasheet.

Wesley Arboretum	9
Oak Woods	4
Radley Airport	4
Old Farley Bridge	4

1. Replace East, West, and North with the first three project names listed above.

2. Place the final project name, Old Farley Bridge, in the blank cell under "Radley Airport."

3. Click on the first cell in column A.

   The Old Farley Bridge now has a graph symbol (representing two columns in a chart) in the row control boxes.

The **row control boxes** are the cells numbered 1 through 4 on the datasheet. Row control boxes are useful for highlighting entire rows.

4. Click on the first row control box (above the number 1).

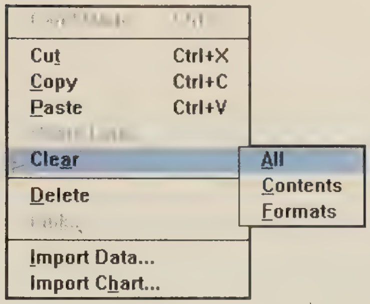
   The first row is highlighted.

5. Select Clear from the Edit menu.

   A menu of three commands appears, as shown in Figure 4-2.

FIGURE 4-2

The Clear command's submenu.



6. Select All from that menu.

   The text in the first row, containing the column headings (1st Qtr, 2nd Qtr), is deleted.

Now you will widen the first column of the datasheet to accommodate the width of the text you entered.

7. Place the mouse pointer over the line on the column control bars separating the first column and column A.

   The mouse pointer turns into a small, double-headed arrow.

8. Double-click on the line between the columns.

   The column widens to accommodate "Wesley Arboretum."

Now you will remove the remaining placeholders in the datasheet. Across the top of the datasheet are column control boxes. **Column control boxes** are gray cells, each marked with a letter.

9. Select the four columns containing placeholder numbers by clicking on the column control box marked "A" and dragging the highlight over columns B, C, and D.

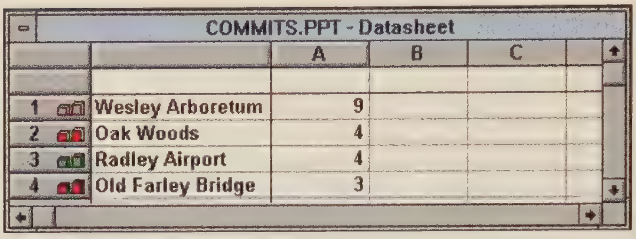
10. Repeat steps 5 and 6 to delete the highlighted information.

    The numbers are deleted.

11. Enter the values in the datasheet, beginning by entering 9 in cell A1.

When you have finished entering the numbers, the datasheet should resemble the datasheet shown in Figure 4-3.

FIGURE 4-3
The completed datasheet for slide 3.

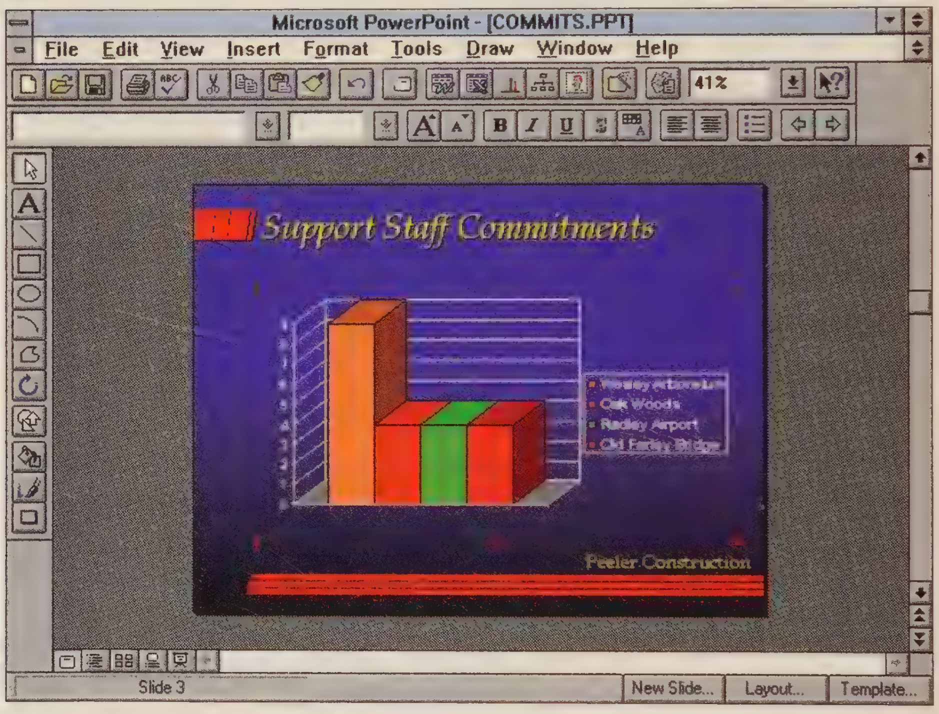

COMMITS.PPT - Datasheet

		A	B	C
1	Wesley Arboretum	9		
2	Oak Woods	4		
3	Radley Airport	4		
4	Old Farley Bridge	3		

12. Then click on the gray area surrounding the slide.

The datasheet closes. Slide 3 reappears, now containing a graph. The Microsoft Graph Standard toolbar disappears, and the PowerPoint toolbars appear, as shown in Figure 4-4.

FIGURE 4-4
The completed graph for slide 3.



Notice that there are selection handles surrounding the graph, meaning the graph is still selected.

CHANGE CHART TYPE

Now you will add a more elaborate graph to the presentation and then explore the Chart Type options for reformatting the graph.

1. Display slide 4.
2. Double-click on the graph placeholder.

PowerPoint switches to Microsoft Graph.

3. Enter the following information in the datasheet:

	Nov	Dec	Jan
Wesley Arboretum	5	4	2
Oak Woods	5	4	4
Radley Airport	6	6	6
Old Farley Bridge	2	2	1

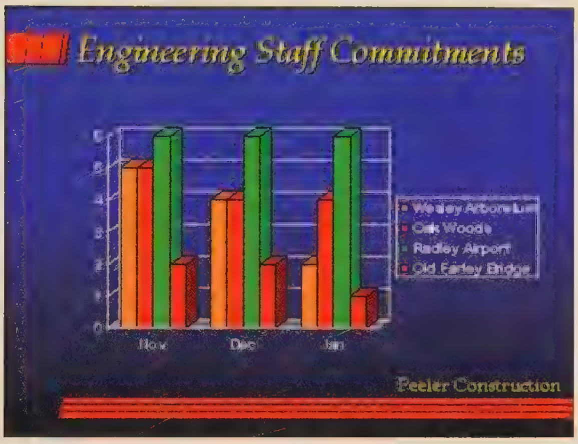
4. Click on the slide under the datasheet.

   A new graph appears in slide 4.

5. Click on the gray area surrounding slide 4.

   The selection box disappears. Your graph should resemble the graph displayed in Figure 4-5.

FIGURE 4-5
The graph in slide 4 after it is no longer selected.



Engineering Staff Commitments

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TIP

Microsoft Graph datasheets can hold a great deal of information. Remember, however, that the graph resulting from the datasheet will be displayed to an audience. The best graphs for a presentation are clear and uncomplicated.

6. Double-click on the graph.

   Microsoft Graph opens.

7. Click on the Chart Type button, the tenth toolbar button from the left.

   As shown in Figure 4-6, the list box offers 14 samples of chart types. The first six samples in the left column are 2-D graphs. The first six samples in the right column are their 3-D equivalents. (The last sample in the left column is a donut chart; the last sample in the right column is a radar chart.)

FIGURE 4-6
The Chart Type list box and its samples.

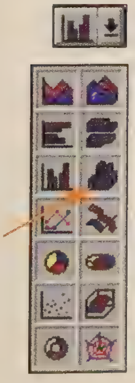
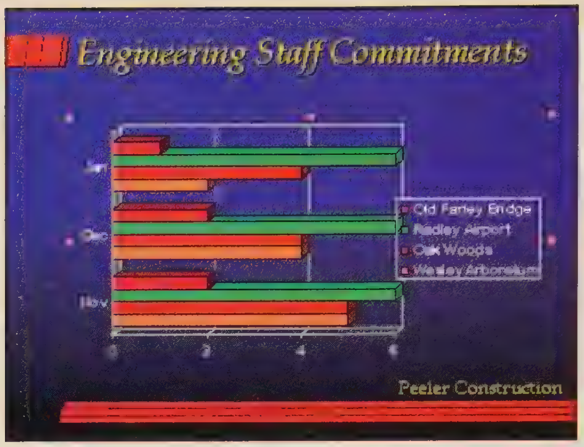


Chart type samples

8. Select the second type in the right-hand column, 3-D Bar Chart.

   Microsoft Graph reformats the graph, as shown in Figure 4-7.

FIGURE 4-7
The reformatted chart for slide 4.



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IMPORT AN EXCEL WORKSHEET

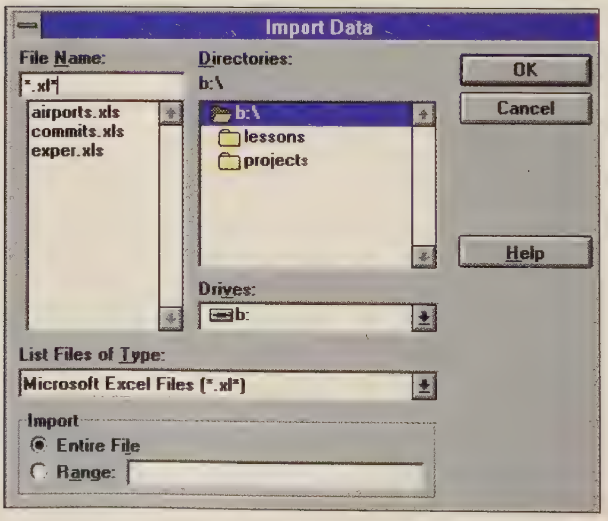
The fastest way to enter information into a datasheet (and begin a graph) is to use data that has already been entered. In the following steps, you will import an Excel worksheet into a Microsoft Graph datasheet.

1. Display slide 6.
2. Double-click on the graph placeholder.

   As before, a datasheet appears.
3. Click on the top left cell in the worksheet, the one to the left of the "1st Qtr" column heading.
4. If necessary, switch to the Student Data Disk.
5. Click on the Import Data button, the first button on the Microsoft Graph Standard toolbar.

   The Import Data dialog box appears, as shown in Figure 4-8. This dialog box closely resembles the Open dialog box.

FIGURE 4-8
The Import Data dialog box.



Import Data

File Name: *.xl*

airports.xls
commits.xls
exper.xls

Directories: b:\

b:\
lessons
projects

Drives: b:

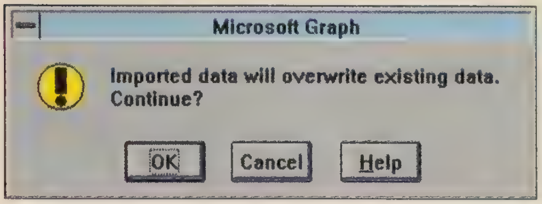
List Files of Type: Microsoft Excel Files (*.xl*)

Import
● Entire File
○ Range:

6. Double-click on the COMMITS.XLS file on your Student Data Disk. This Excel file contains the data you will import.

   A message box appears, as shown in Figure 4-9, warning you that imported data will overwrite existing data.

FIGURE 4-9
A warning box.



Imported data will overwrite existing data. Continue?

7. Click on the OK button.

   For a moment, the datasheet is white. Then data from the Excel file overwrites the placeholder information in the datasheet. Because the Excel file contained only three columns of information, the fourth column of placeholder information remains. You must delete the placeholder numbers or your graph will contain inaccurate information.

TIP

Delete placeholder information by using row control boxes or column control boxes. If you delete placeholder information by simply clearing the cells with placeholder numbers, Graph still charts the empty columns or rows. This will distort the look of your graph.

8. Click on the Column control box marked "D."

   The entire column is highlighted.

9. Select the Clear command from the Edit menu.

   The submenu of three commands appears.

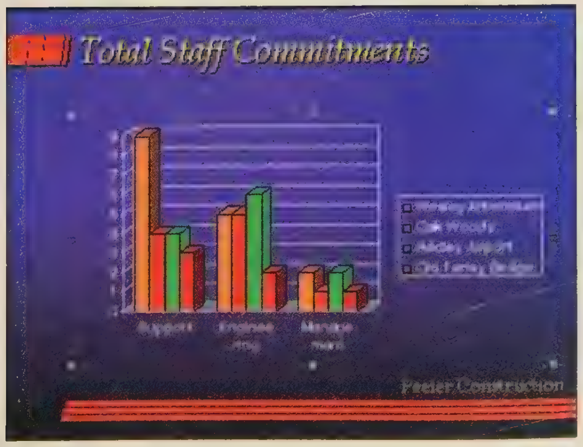
10. Select the All command.

    The data in the column is deleted.

11. Click on the gray area surrounding the slide.

    A graph has been created, as shown in Figure 4-10, using the Excel worksheet information.

FIGURE 4-10
A graph created from the Excel worksheet data.



ADDING TABLES

Because they present information in a visual way, graphs attract attention. Sometimes, however, presenting raw data in a table is most effective. In the following steps, you will add a table to a slide.

ADD A TABLE

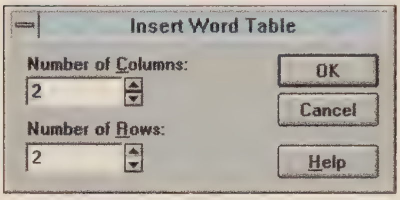
In the following steps, you will add a table to slide 7.

1. Display slide 7.

   Here is a new placeholder, the Table placeholder.

2. Double-click on the placeholder.

   The Insert Word Table dialog box appears, as shown in Figure 4-11.



Insert Word Table

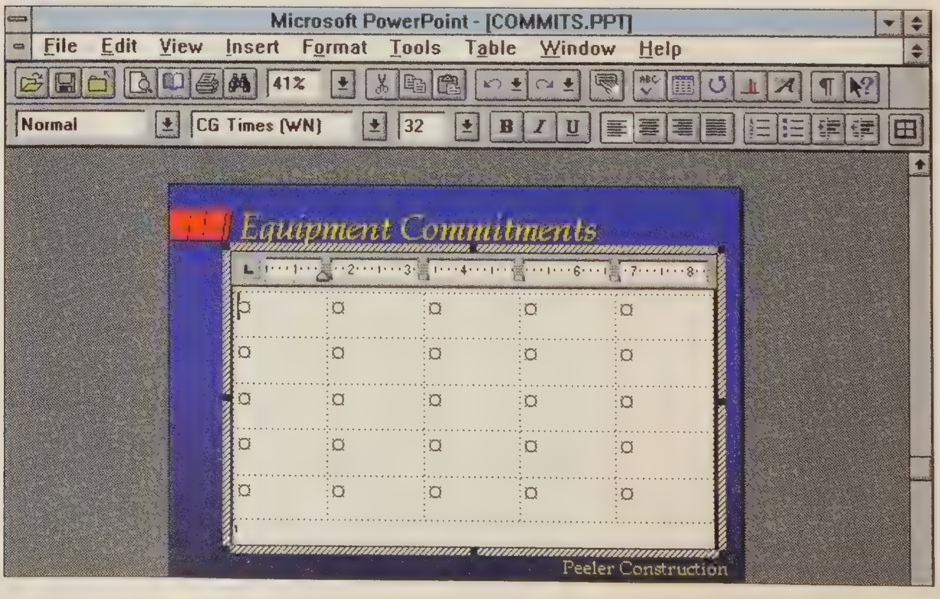
Number of Columns: 2

Number of Rows: 2

FIGURE 4-11
The Insert Word Table dialog box.

3. The table above has five rows and five columns. Use the Number Of Columns top arrow to select 5.
4. Use the Number Of Rows top arrow to select 5.
5. Select the OK button.

   PowerPoint inserts a table, shown in Figure 4-12. The cursor is in the first cell of the table. Notice also that the Microsoft Word Standard and Formatting toolbars have replaced the PowerPoint toolbars. (Your toolbars may vary slightly from the ones shown in Figure 4-12.)



Microsoft PowerPoint - [COMMITS.PPT]

41%

Normal

CG Times (WN)

32

Equipment Commitments

Peeler Construction

FIGURE 4-12
Microsoft Word toolbars replace the PowerPoint toolbars.

6. Enter the information below into the PowerPoint table. Use the arrow keys on your keyboard to navigate the table.

	Earthmoving	Paving	Power	Geotech
Wesley Arboretum	2	4	2	1
Oak Woods	7	4	4	3
Radley Airport	2	3	6	1
Old Farley Bridge	2	2	1	2

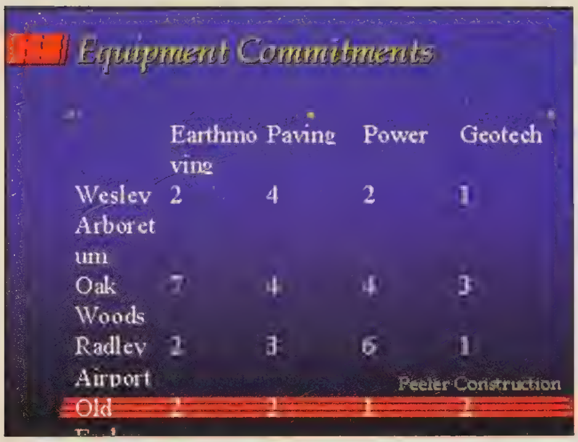
7. When you are done entering the information, check that it is accurate by comparing it to the table above.

8. Click on the gray area surrounding the slide.

The table disappears. The table on slide 7, however, is much too big for the slide, as shown in Figure 4-13.

FIGURE 4-13

The table is too large for slide 7.



Equipment Commitments

	Earthmo ving	Paving	Power	Geotech
Wesley Arboret um	2	4	2	1
Oak Woods	7	4	4	3
Radley Airport	2	3	6	1
Old	2	2	1	2

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In the next section, you will edit the table so that it fits on slide 7.

EDIT A TABLE

PowerPoint tables can be formatted as you would format Word tables. In the following steps, you will edit the table in slide 7 to reduce its size, add borders to make the information easier to understand, and then center the table's numbers to make them stand out more.

1. Double-click on the table in slide 7.

The table is displayed above the slide. The Microsoft Word toolbars are displayed.

2. If necessary, highlight the cells containing data.

3. Select 24 in the Font Size list box.

The data is reformatted in 24 points.

4. On the ruler, click on the second boundary marker and drag it until the first column heading, Earthmoving, fits on one line.

5. Select the last button on the Formatting toolbar, the Borders button.

   The Borders toolbar is displayed.

6. Select the ¾ pt double line in the Line Style list box.

   The ¾ pt double line is now displayed in the Line Style sample box.

7. Click on the Outside Border button on the Borders toolbar, the sixth button after the Line Style list box.

   The outside border of the table now has a ¾ pt double line.

8. Open the Line Style list box and select the ¾ pt single line.

   The ¾ pt single line is displayed in the Line Style sample box.

9. Click on the Inside Border button on the Borders toolbar, the fifth button after the Line Style list box.

   The faint dashed lines separating the columns and rows are replaced with the ¾ pt single line.

10. Click on the cell containing the "Earthmoving" column heading.

    The highlighting is removed from the remaining cells.

11. Highlight the four columns containing numbers.

12. Click on the Center alignment button on the Formatting toolbar.

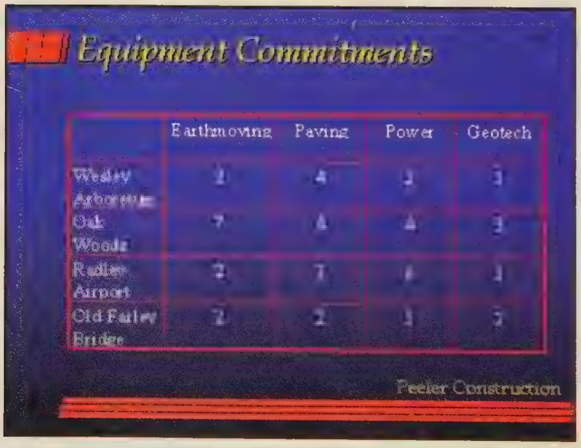
    The numbers and column headings are centered in their cells.

13. Click on the gray area surrounding slide.

    Slide 7 is displayed. Your slide should resemble the one shown in Figure 4-14.

FIGURE 4-14

The finished table in slide 7.



Equipment Commitments

Earthmoving Paving Power Geotech

Peeler Construction

INSERTING AN ORGANIZATION CHART

Organization charts show the structure of an organization and where employees fit into that organization. For the COMMITS.PPT presentation, you will insert an organization chart to show which manager is committed to each project.

CREATE AN ORGANIZATION CHART

1. Display slide 5.
2. Double-click on the organization chart placeholder, displayed on slide 5.

   Microsoft Organization Chart opens, as shown in Figure 4-15.

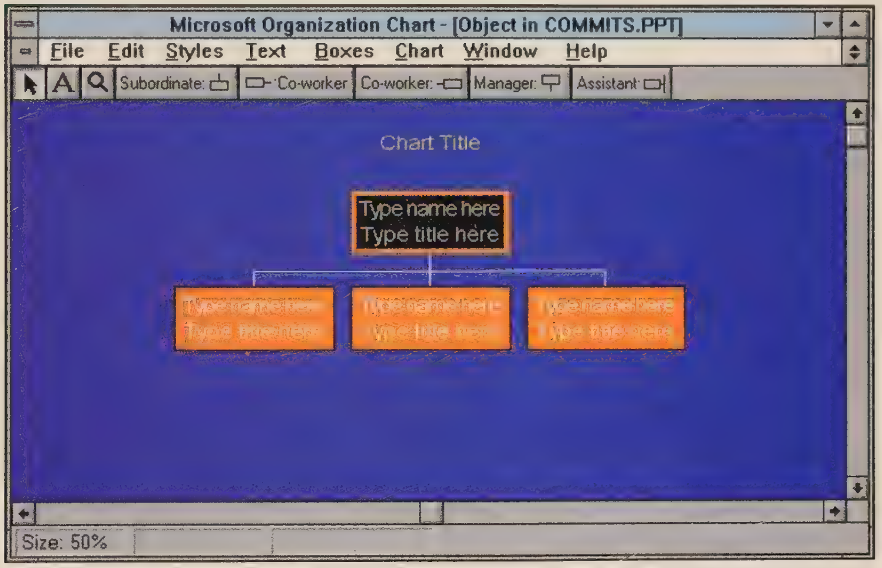

Microsoft Organization Chart - [Object in COMMITS.PPT]
File Edit Styles Text Boxes Chart Window Help
Subordinate:
Co-worker
Co-worker:
Manager:
Assistant:
Chart Title
Type name here
Type title here
Size: 50%

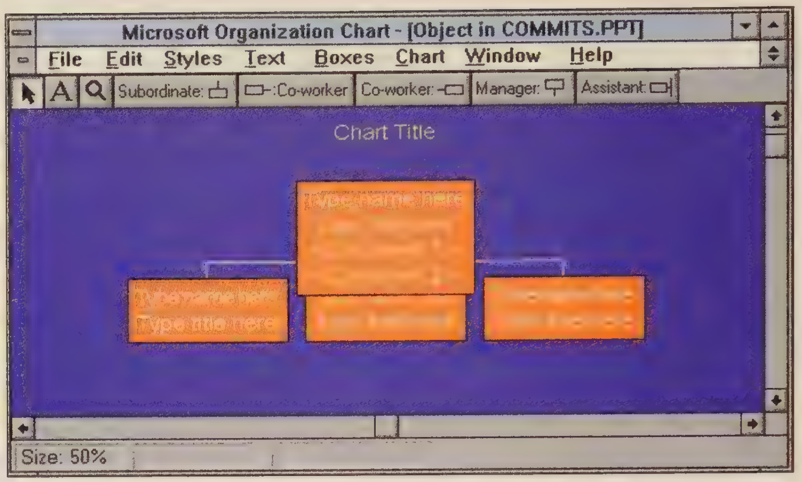
FIGURE 4-15
Microsoft Organization Chart.

The top chart box is highlighted in black; this is the box where the application expects you to begin entering information.

3. Select the Type Name Here placeholder.

   The chart box expands, as shown in Figure 4-16, so that you can add a name, title, and two comments.

FIGURE 4-16
The format for an extended box.



4. Highlight the Type Name Here text.

5. Type **Gert Holden**

6. Highlight the next line, "Type title here."

7. Type **Senior Resident Engineer**

   The box expands to accommodate the new, wider title.

8. Using the techniques shown in steps 4 through 7, enter the following text on the <Comment1> and <Comment2> lines:

   Wesley Arboretum
   Oak Woods

TIP

You only have to click on the <Comment1> and <Comment2> placeholders to highlight them.

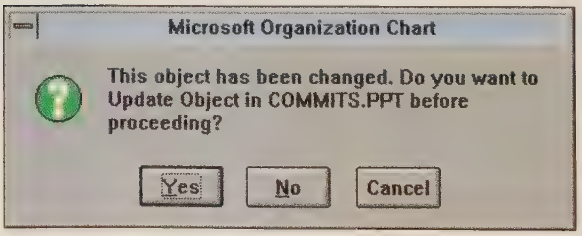
9. Enter the following information in the three **subordinate chart boxes** (these are chart boxes that branch down from another chart box):

Petra Brunmuller	**David Crosley**	**Earl Miner**
Resident Engineer	**Resident Engineer**	**Resident Engineer**
Arboretum	**Oak Woods**	**Radley Airport**

10. Select Exit And Return To COMMITS.PPT from the File menu.

    A message box opens, shown in Figure 4-17, asking if you want to update the object.

FIGURE 4-17
A message box appears before you exit Microsoft Organization Chart.



This object has been changed. Do you want to Update Object in COMMITS.PPT before proceeding?

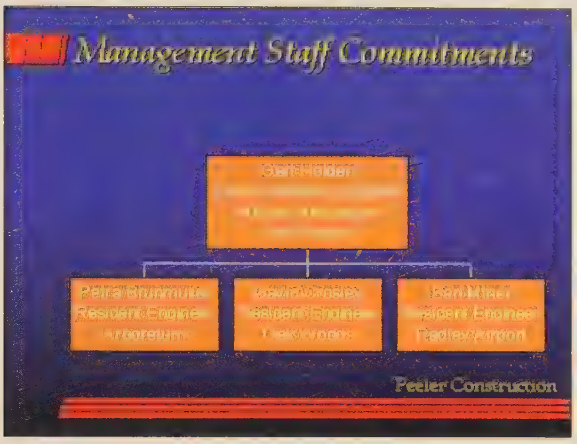
11. Click the Yes button.

The Select Exit And Return To COMMITS.PPT command updates information in the organization chart, closes Microsoft Organization Chart, and returns you to your presentation. Slide 5 reappears. The organization chart has been added to slide 5.

12. Click on the gray area outside slide 5.

The selection handles disappear. Your slide should resemble the slide shown in Figure 4-18.

FIGURE 4-18
A completed organization chart.



Management Staff Commitments

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EDIT AN ORGANIZATION CHART

In the following steps, you will edit the organization chart you created to reflect last-minute changes.

1. Double-click on the organization chart in slide 5.
2. Double-click on the top chart box.

The chart box expands.

Gert Holden is the Senior Resident Engineer for all four current projects, not just the Wesley Arboretum and Oak Woods projects, so you need to delete the project names from the chart box.

3. Highlight the last line of text.
4. Press [Del].

The text is deleted; the <Comment2> placeholder returns.

5. Highlight "Wesley Arboretum."
6. Press [Del].

The text is deleted; the <Comment1> placeholder returns.

7. Click outside the chart box to close the chart box.

One of the resident engineers was left off the original organization chart. So now you will add a fifth chart box to the chart (below the top chart box) and fill it with the resident engineer's information.

TIP *There are two Co-worker buttons in the Microsoft Organization Chart window. They each add a box of equal level to whichever box you select. The first adds a box to the left. The second adds a box to the right.*

8. Select the second Co-worker button.

   The mouse cursor turns into a small chart box.

9. Click on the box with Earl Miner's name.

   A new chart box is added to the right of the box you selected. Notice that the new chart box is parallel to the old chart box it is attached to. The inside of the new chart box is black—a sign that it is selected.

10. Click in the black center of the new chart box.

    The familiar text placeholders appear. (To conserve space, the placeholders are abbreviated now.)

11. Add the following information to the new chart box:

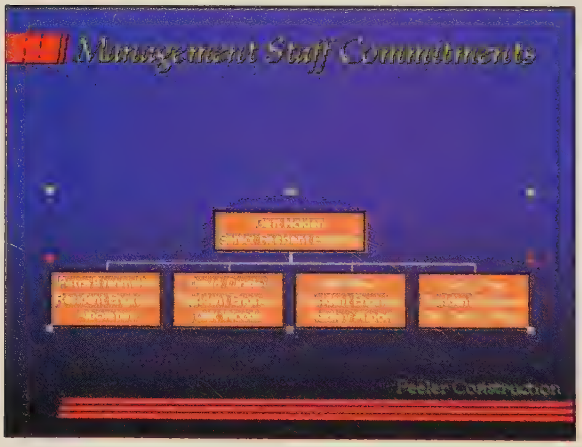
    Irving Fryer
    Resident Engineer
    Old Farley Bridge

12. When you have added the information, select the Exit And Return To COMMITS.PPT command from the Edit menu.

13. When the message box appears, click the Yes button.

    Microsoft Organization Chart closes. Slide 5 reappears. Your slide should resemble the slide in Figure 4-19.

FIGURE 4-19
The edited organization chart.



Management Staff Commitments

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DELETE A CHART BOX

Just as your presentation is complete, another change is made. David Crosley has left Peeler Construction and needs to be removed from the organization chart.

1. Double-click on the organization chart on slide 5.

2. When Microsoft Organization Chart opens, click on the chart box with David Crosley's name.

   The background of the slide becomes black, the signal that it is selected.

3. Press Del.

   After a moment, the chart box is deleted. The organization chart collapses to close the space the deleted chart box occupied.

4. Open the File menu and select the Exit And Return To COMMITS.PPT command. Click Yes if the Update box appears.

   Slide 5 is displayed.

REPOSITION THE ORGANIZATION CHART ON THE SLIDE

As with other objects, an organization chart can be dragged and dropped when its selection handles are visible. For example, suppose you want to drag the organization chart to the center of the slide.

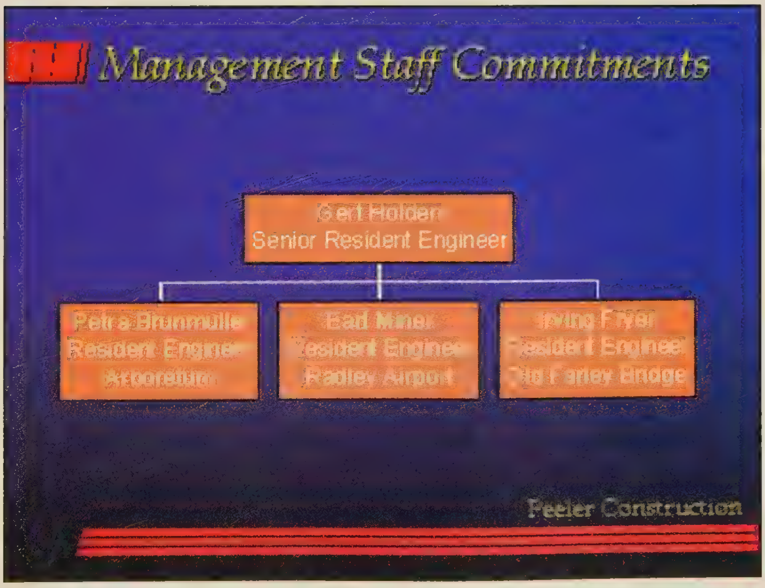
1. Drag the organization chart until it is centered in the object area.

   When you click on the slide, a faint dashed selection box appears.

2. Click on the gray area surrounding the slide.

   The selection handles disappear. Your slide should resemble the slide shown in Figure 4-20.

FIGURE 4-20
The completed organization chart.



Management Staff Commitments

Gert Holder
Senior Resident Engineer

Petra Brunmulle
Resident Engineer
Arboretum

Earl Miner
Resident Engineer
Radley Airport

Irving Fryer
Resident Engineer
Old Farley Bridge

Peeler Construction

3. Print and save the COMMITS.PPT presentation.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Start Microsoft Graph	Double-click graph placeholder or choose Insert, Microsoft Graph	Alt+i,g	
Clear datasheet information	Choose Edit, Clear, All	Alt+e,a,a	
Open datasheet	Double-click on graph placeholder (for new graph)	Alt+v,d (for existing graph)	
Close datasheet	Click on slide underneath datasheet	Alt+v,d	
Display Chart Type samples	Choose Format, Chart Type	Alt+o,c	
Import Data	Choose Edit, Import Data	Alt+e,i	
Insert Word Table	Double-click placeholder or choose Insert, Microsoft Word Table	Alt+i,w	
Resize table columns	Drag boundary markers or choose Table, Cell Height And Width	Alt+t,w	
Open Line Style list box	Choose Format, Borders And Shading	Alt+o,b	¾ pt
Display Borders toolbar	Choose Format, Borders And Shading	Alt+o,b	
Add outside border	Choose Format, Borders And Shading	Alt+o,b	
Add inside border	Choose Format, Borders And Shading	Alt+o,b	
Insert organization chart	Double-click on organization chart placeholder	Alt+i,o	

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. worksheet	**a.** Used to move from graph to datasheet
2. datasheet	**b.** Adds a boundary on the edges of a table
3. Inside Border button	**c.** Useful in highlighting columns
4. View Datasheet button	**d.** Useful in highlighting an entire row
5. <Comment1>	**e.** Opens access to an Excel worksheet
6. row control box	**f.** Offers various line thicknesses
7. column control boxes	**g.** Used to add a third line of text in an organization chart box
8. Import Data button	**h.** Holds information in Microsoft Graph
9. Line Style list box	**i.** Adds a border within a table
10. Outside Border button	**j.** Holds information in Excel

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which of the following does *not* have a placeholder?

- **a.** Microsoft Graph
- **b.** Insert A Word Table
- **c.** Insert A Datasheet Column
- **d.** Microsoft Organization Chart

2. What happens when you click on a highlighted chart box?

- **a.** Microsoft Organization Chart closes.
- **b.** The chart box is copied.
- **c.** The chart box is deleted.
- **d.** The chart box expands.

3. You have just imported an Excel worksheet into a PowerPoint datasheet. Why is it important to delete any remaining datasheet placeholders?

- **a.** They will distort the information in the graph.
- **b.** They may make your datasheet exceed the allowable data limit.
- **c.** They are incompatible with the Excel information.
- **d.** The placeholders are not acknowledged by Graph.

4. Based on your work in this lesson, what is the smallest unit you must select in a datasheet before you can import Excel information?

- **a.** One cell
- **b.** One column
- **c.** One row
- **d.** All cells with placeholders

5. When the Microsoft Graph worksheet appears, the cells in the worksheet contain numbers. What is the purpose of these numbers?

- **a.** They show how much information can be entered.
- **b.** They are only placeholders.
- **c.** They illustrate worksheet features.
- **d.** They show the recommended text format.

6. Which does *not* appear on the Borders toolbar?

- **a.** The Inside Border button
- **b.** The Outside Border button
- **c.** The Shading button
- **d.** The Line Style list box

7. You have just clicked on the Co-worker button. Your cursor has turned into a small chart box. Where do you click to add the Co-worker chart box?

- **a.** The New Chart Box button
- **b.** The chart box you want to connect to
- **c.** Any open space on the organization chart
- **d.** The Chart Style button

8. What happens when you double-click on a graph placeholder?

- **a.** A dialog box and the Graph toolbars appear.
- **b.** A datasheet and the Microsoft Excel toolbars appear.
- **c.** A graph and a message box appear.
- **d.** A datasheet appears and the PowerPoint toolbars disappear.

9. What happens if you add text to a chart box that is wider than the text placeholder?

- **a.** The box expands.
- **b.** The box warns you by turning black.
- **c.** The box warns you by turning orange.
- **d.** Text cannot be entered if it is wider than the placeholder.

10. When you are widening a column in a Word table inserted in PowerPoint, what is the name of the marker you use?

- **a.** Indent marker
- **b.** Boundary marker
- **c.** Margin marker
- **d.** Column marker

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. What happens to a chart if you delete one of its chart boxes?
2. What happens if you have six columns in a datasheet and you insert a two-column Excel worksheet?
3. What are organization charts usually used to show?
4. Why are tables sometimes used instead of graphs in presentations?
5. What is the advantage of importing Excel worksheet information into a Microsoft Graph datasheet?
6. Why wouldn't it be a good idea to import a large Excel worksheet into a datasheet that will be used to create a PowerPoint graph?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open the EXPER.PPT presentation from your Student Data Disk and save it as PROJ4-1.PPT in the PROJECTS directory or on your OVERFLOW disk. The presentation is part of a proposal. Display slide 3. Start Microsoft Graph. You will complete the worksheet that Graph opens by entering the following information.

1993	2.9
1994	3.7
1995	4.2
1996	5.3

Remember to delete all placeholding information. When the graph is completed, exit Graph. If your instructor has asked that you print your presentation, do so now.

2. Open the presentation you modified in project 1, PROJ4-1.PPT, if it is not already open. Display slide 4. Create a graph for slide 4 by importing the EXPER.XLS Excel worksheet from your Student Data Disk.

Exit Microsoft Graph when the graph is completed. Save the presentation as PROJ4-2.PPT. If your instructor has asked that you print your presentation, do so now.

3. Open the presentation you created in project 2, EXPER2.PPT, if it is not already open. If you did not complete projects 1 and 2, open EXPER.PPT. Display slide 5. Add a table to slide 5 and complete it by entering the following information.

POSITION	AVERAGE YEARS OF CONSTRUCTION EXPERIENCE
Senior Project Manager	17
Senior Resident Engineer	14
Resident Engineer	11
Project Engineer	9

Add a ¾ pt line to the inside borders of the table. Select a 2¼ pt line as the outside border of the table. When the table is completed, exit and return to slide 5. Adjust the table so that it is centered on slide 5. Save the presentation as PROJ4-3.PPT. If your instructor has asked that you print your presentation, do so now.

4. Open the presentation you created in project 2, PROJ4-2.PPT, if it is not already open. If you did not complete projects 1 and 2, open EXPER.PPT. Insert an organization chart, in the shape shown in the following table, into slide 6. When the organization chart is complete, adjust the organization chart so that it is centered on slide 5.

Paul Horneven
Construction Manager

Ras Dhurry Senior Project Manager	Vern Woodley Senior Project Manager	Mary Jo VanBerg Senior Project Manager

Save the presentation as PROJ4-4.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

5. Choose a partner for the following exercise, in which you will add tables, graphs, and an organization chart to complete the presentation you began in Lesson 2, PROJ2-5.PPT. You will also review skills you learned in other lessons. First, save the presentation as PROJ4-5.PPT.

On slide 2, delete the last subtitle. Then add a graph to slide 3, using the following information.

	1992	1993	1994
Estimating	$254	$280	$305
Project Controls	$260	$275	$293
Quality Control	$110	$145	$169

After you have completed the graph, and with the Graph Standard toolbar displayed, add a title to the graph. You do this by selecting the Titles command from the Insert menu. When the Titles dialog box appears, click on Chart Title. Type **Total Billings (thousands)**. Drag the text box so that it is centered over the graph. Click on the gray area surrounding the slide and check the placement of the chart title. If the chart title is not centered, drag the title until it is centered.

Then use the following information to create a graph for slide 4. Add a title to this graph by using the Titles command from the Insert menu of the Graph Standards toolbar. Type **Billions $** for this title. Center the title over the graph.

	1940s	1950s	1960s	1970s	1980s	1990s
New Projects	29	36	44	52	49	40
Repair	7	9	13	14	17	21

Use the following information to create a graph for slide 5.

TIP

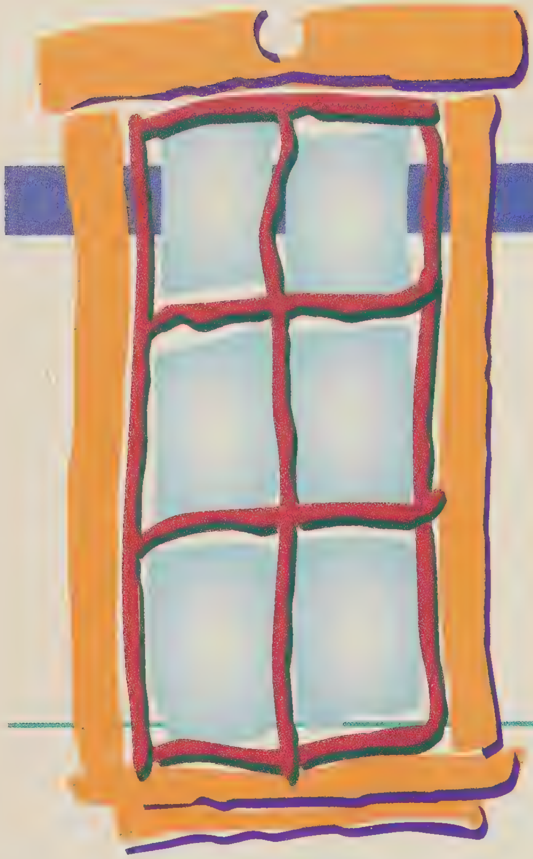
Clear everything from the first, unlabeled column in the datasheet before you begin entering data.

1940s	1950s	1960s	1970s	1980s	1990s
12	16	20	24	32	46

Delete the bullet from the subtitle on slide 6. Then use the Text tool to add this phrase under the clip art: **Up from 7.7 percent last year**. Center the text under the clip art.

Delete the bullet from the subtitle on slide 8. Then add the following to the shape: **Great National Sales**. Center the text over the shape. Then add a slide to the end of the presentation. Add an appropriate slide title. You will be adding a table to this slide. The table shows the rankings of medium-size construction companies. Roomley Builders ranks number 43 and had 1996 billings of $5.6 million. Peeler Construction ranks number 44 and had 1996 billings of $5.4 million. Lomlar Construction ranks 45 and had 1996 billings of $5.2 million. Adjust font size, if necessary, so that the table fits on the slide. Choose an inside and outside border. Center column headings.

Add another slide to the end of the presentation, and add an organization chart to the slide. The organization chart will show members of Peeler Construction's Business Development Department. These are the members of the department and their titles: Dean Kawanari, Sales, Overseas; William Blue, Sales, Eastern Region; Susan Pomeroy, Sales, Midwest Region; Odgen Tudor, Sales, Western Region; Chad Fazilli, Manager, Business Development. After the organization chart is complete, add **Peeler Construction** to the bottom of each slide. Save the presentation. If your instructor has asked that you print your presentation, do so now. Close the presentation.



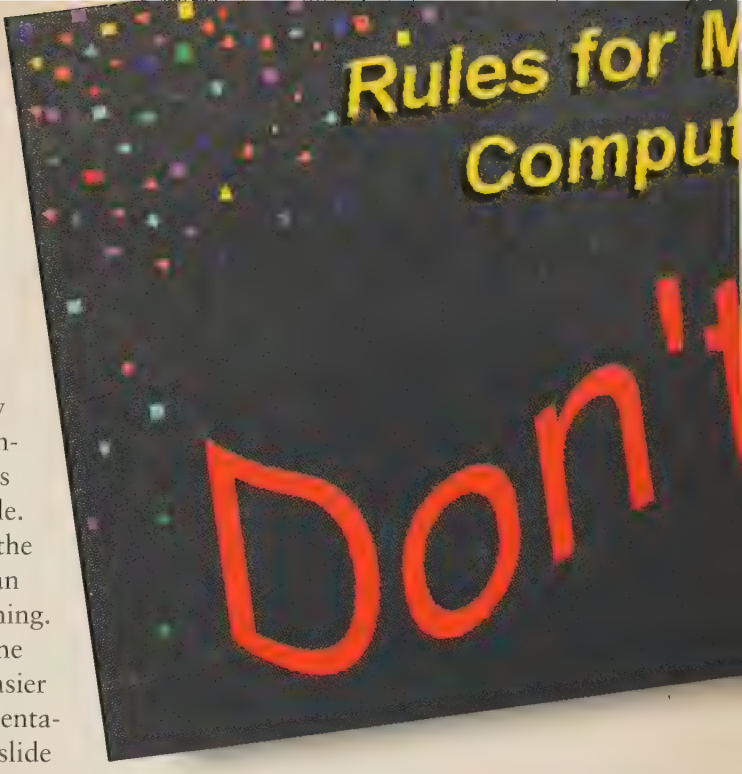
LESSON 5

PRODUCING YOUR PRESENTATION

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Change printers.*
- *Choose printing options to reduce the demand on your printer's memory.*
- *Print handouts of your presentation.*
- *Annotate slides during a presentation.*
- *Blank out a screen during a presentation.*
- *Add transitions to a presentation.*
- *Rehearse a presentation's slide timings.*



Producing a presentation means showing it to an audience, either displayed on a screen or in printed form. Previous lessons have taught you how to complete parts of a presentation. This final lesson deals with presentations as a whole. It is concerned with adding the finishing touches that keep an audience listening and watching. You will begin by learning the print options that make it easier and faster to print your presentation. Then you will explore slide show techniques, such as annotating a slide during a presentation and adding animation to your information. At the end of this final lesson, you will be able to present a completed presentation to your audience, both as a slide show and as printed materials.

PRINTING YOUR PRESENTATION

Although a presentation is meant to be shown on a screen, it is often reviewed on paper. The following exercises introduce you to the print options that can make printing a presentation faster and less expensive. Peeler Construction is moving to its new company office. You have prepared the presentation and will now print it for review.

CHOOSE A PRINTER

In a work environment, you may have access to several printers. For example, you might use a color printer to print color overheads, then switch to a black-and-white laser to print handouts for your audience.

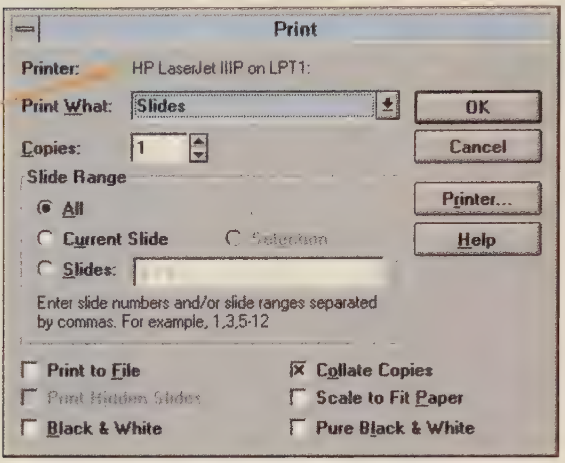
The first step in printing a presentation is choosing a printer.

1. Start PowerPoint.
2. Open the MOVING.PPT presentation on your Student Data Disk.
3. Save the presentation as MOVING.PPT in the LESSON directory of your Student Data Disk or on your OVERFLOW disk.
4. Display the presentation in Slide view.

5. Select the Print command from the File menu.

   The Print dialog box opens, as shown in Figure 5-1. Notice that your current printer is displayed at the top of the Print dialog box.

FIGURE 5-1
The Print dialog box.



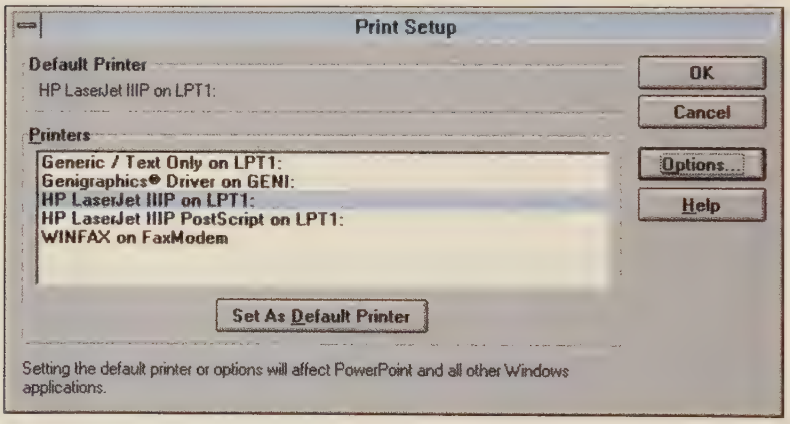
Your current printer

Printer: HP LaserJet IIIP on LPT1:
Print What: Slides
Copies: 1
Slide Range
● All
○ Current Slide ○ Selection
○ Slides:
Enter slide numbers and/or slide ranges separated by commas. For example, 1,3,5-12
☐ Print to File ☒ Collate Copies
☐ Print Hidden Slides ☐ Scale to Fit Paper
☐ Black & White ☐ Pure Black & White

6. Click on the Printer button on the Print dialog box.

   The Print Setup dialog box opens, as shown in Figure 5-2. Notice that your current printer is displayed at the top of the Print Setup dialog box and highlighted in the list box. Write down the name of your printer—you'll use it later in this lesson.

FIGURE 5-2
The Print Setup dialog box.



Default Printer
HP LaserJet IIIP on LPT1:
Printers
Generic / Text Only on LPT1:
Genigraphics® Driver on GENI:
HP LaserJet IIIP on LPT1:
HP LaserJet IIIP PostScript on LPT1:
WINFAX on FaxModem
Setting the default printer or options will affect PowerPoint and all other Windows applications.

The Print Setup dialog box lists the printers available to you. The list of printers available to you will likely be different from those shown in Figure 5-2.

7. For practice, click on "Genigraphics® Driver on GENI," a print option installed on your system with PowerPoint.

   The highlight moves to the printer you have chosen.

8. Click on the Set As Default Printer button.

   The new printer you have selected appears at the top of the Print Setup dialog box as the default printer.

9. Select the OK button.

   After a moment, the Print dialog box reappears. The new printer is listed at the top of the Print dialog box. If you printed a presentation now, it would print to this printer.

NOTE *The Genigraphics® Driver on GENI is not really a printer. It is a way to send slides for processing and is used here only as an illustration.*

10. Click on the Printer button.
11. Select the printer you usually use.
12. Click on the Set As Default Printer button.
13. Click the OK button.

    The Print Setup dialog box closes. PowerPoint returns you to the Print dialog box. Your standard printer is now listed at the top of the dialog box.

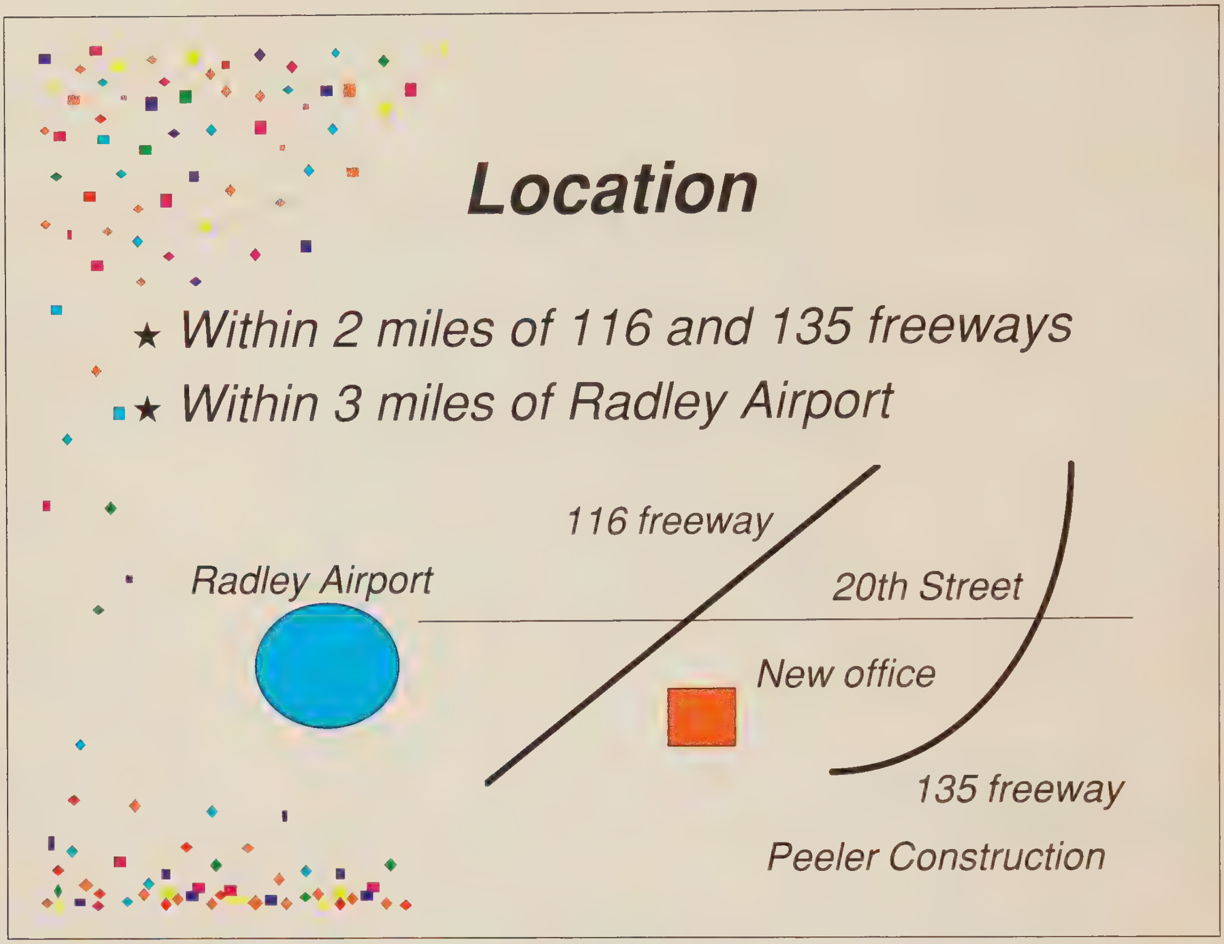
PRINT SLIDES WITH PRINT OPTIONS

Because slides have so many graphic elements, printing them can strain a printer's resources. Even when printed on a black-and-white laser printer, a color slide presentation may require more memory than your printer has. Using the following options can make printing slides faster or simply make it possible to print them.

1. Display slide 4 in Slide view.
2. Select the Print command from the File menu.
3. Click on the Current Slide option to print slide 4 only.
4. Make sure none of the check boxes at the bottom of the Print dialog box are checked.
5. Select the Black & White check box at the bottom of the Print dialog box.
6. Click on the OK button.

   The Print dialog box closes and slide 4 is printed. Your slide should resemble the slide in Figure 5-3.

When printing a color slide on a black-and-white laser printer, PowerPoint converts the colored background, objects, and text to grays. This takes a great deal of memory. By choosing the Black & White option, you tell PowerPoint to ignore colors. Instead, it converts the background to white and the text to black, saving printer memory.



Location

- ★ Within 2 miles of 116 and 135 freeways
- ★ Within 3 miles of Radley Airport

116 freeway

Radley Airport

20th Street

New office

135 freeway

Peeler Construction

FIGURE 5-3

Slide 4 printed with the Black & White option.

TIP *You can also reduce the memory demands on your printer by printing slides one at a time.*

If you are using a color printer, another option is useful. By selecting the Pure Black & White option in the Print dialog box you tell PowerPoint to treat your color printer as a black-and-white printer. This makes the printing of the slide faster, while conserving color supplies.

PRINT HANDOUTS

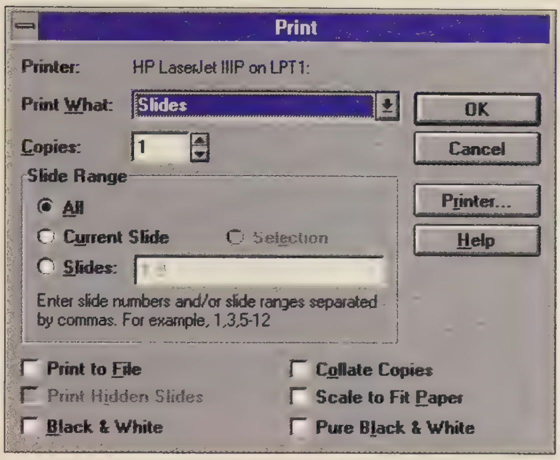
The MOVING.PPT presentation will be reviewed by several managers before it is presented. Rather than gathering reviewers together for the presentation, however, you will distribute handouts to reviewers. Handouts combine from 2 to 6 slides on a page. This saves paper.

1. Display slide 5 in Slide view.

2. Select the Print command.
3. Open the Print What list box.

   Several options appear, as shown in Figure 5-4.

FIGURE 5-4
Options on the Print What list box.



Printer: HP LaserJet IIIP on LPT1:

Print What: Slides

Copies: 1

Slide Range

● All

○ Current Slide ○ Selection

○ Slides:

Enter slide numbers and/or slide ranges separated by commas. For example, 1,3,5-12

☐ Print to File ☐ Collate Copies

☐ Print Hidden Slides ☐ Scale to Fit Paper

☐ Black & White ☐ Pure Black & White

4. Select the Handouts (2 Slides Per Page) option.
5. Make sure neither the Black & White option, nor the Pure Black & White option, is checked.
6. If it is not selected, select the All radio button in the Slide Range options.
7. Click the OK button.

   Your handout of slides 5 and 6 should resemble the slides shown in Figure 5-5.

8. If necessary, open the Print dialog box and reselect the options you noted earlier.

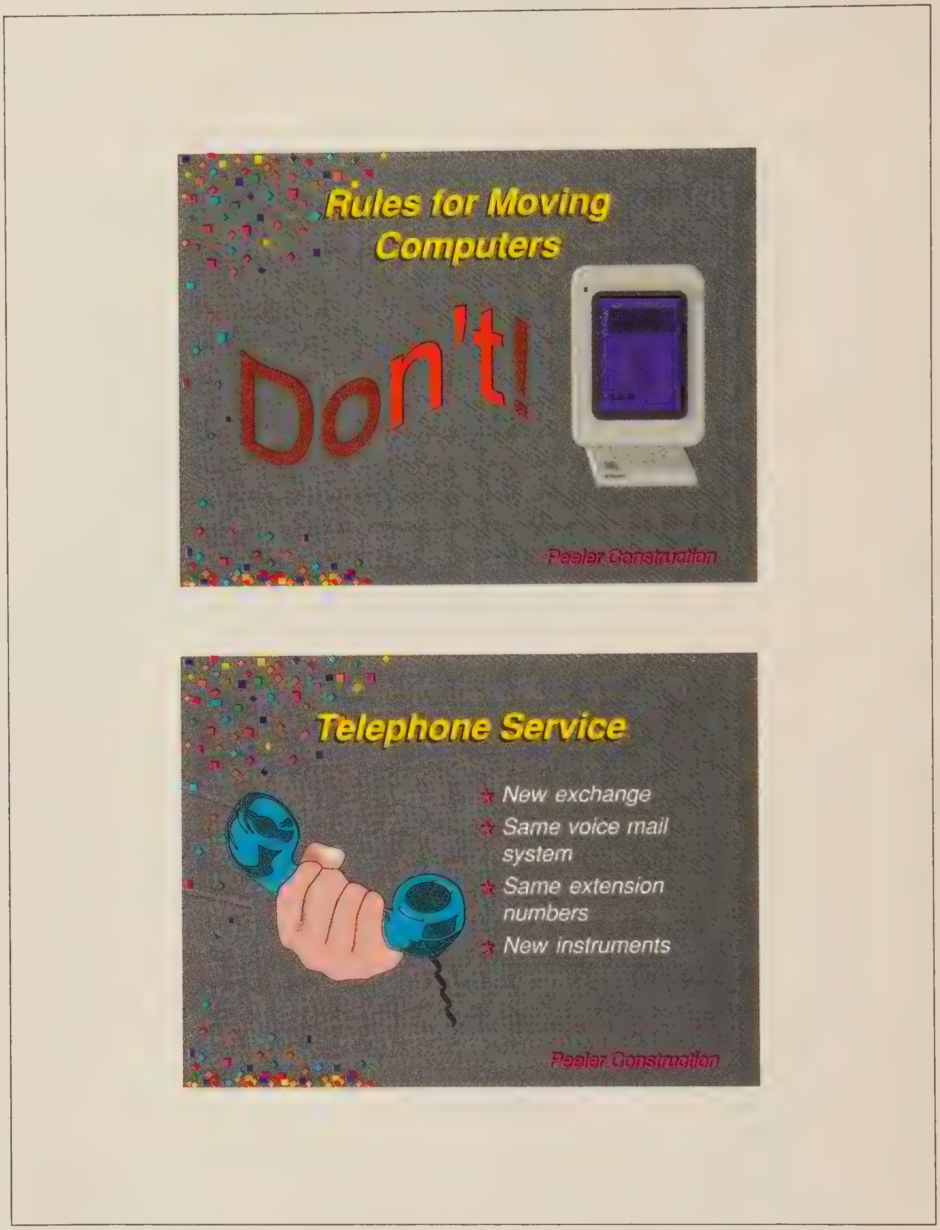
NOTE

Even though slide 5 is displayed, when you choose the All Slide Range option, all slides print, two per page. If you had chosen the Handouts (2 Slides Per Page) option and the Current Slide range option, only slide 5 would have printed. It would have printed in the reduced size PowerPoint uses when printing two slides per page (although slide 5 would have been the only slide on the page).

One advantage of using the six slides per page option is that it gives a reviewer or audience a sense of how the presentation flows, how it all fits together.

To reduce the number of pages you print in this lesson, you will not print using every option on the Print What list box. Notice, however, that other options allow you to print the presentation's outline or to print Notes Pages, with one slide per page and an area for speaker's notes.

FIGURE 5-5
A handout with two slides per page.



Rules for Moving Computers

Don't!

Peeler Construction

Telephone Service

- New exchange
- Same voice mail system
- Same extension numbers
- New instruments

Peeler Construction

PRODUCING A PRESENTATION

Suppose you plan to give the MOVING.PPT presentation live, using your computer and a computer projection screen, an increasingly popular way to give presentations. A computer projection screen duplicates the slide on your monitor and sends it to a special overhead projector. The overhead projector displays the image on a wall or large screen.

In the following exercises, you will employ PowerPoint's Slide Show view to rehearse the presentation.

ANNOTATE PRESENTATION ELEMENTS

One advantage of a presentation is that the presenter can react to the audience. For example, the presenter can return to a slide to answer a question. In the following steps you will use a tool that enables you to react to an audience by highlighting an element for them.

1. Display slide 5 of the MOVING.PPT presentation in Slide Show view.
2. Click on the **annotation icon** in the lower-right corner of the slide.

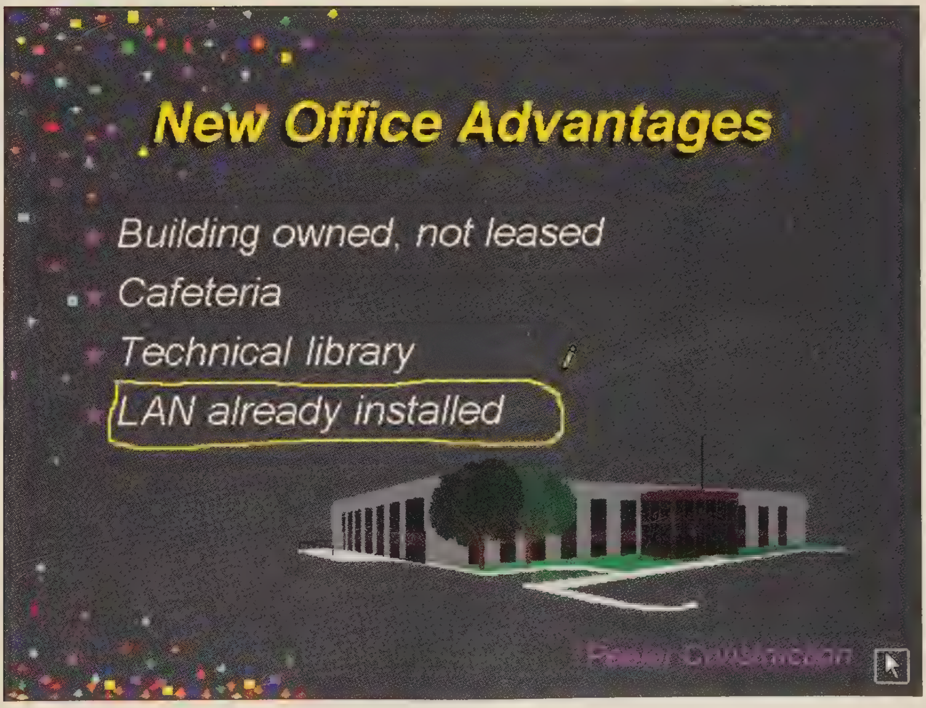
*The mouse pointer changes and becomes the **Pencil pointer**, used for freehand drawing on a slide during a presentation.*

NOTE *If you move the mouse when a slide is displayed in Slide Show view, the annotation icon appears.*

3. Move the Pencil pointer to the fourth subtitle, LAN already installed.
4. Click and drag the Pencil pointer in a circle around the subtitle.

As shown in Figure 5-6, PowerPoint displays a yellow line around the subtitle.

FIGURE 5-6
A slide annotated with the Pencil pointer.



New Office Advantages

- Building owned, not leased
- Cafeteria
- Technical library
- LAN already installed

NOTE *PowerPoint selects the color used to annotate slides based on the color it thinks looks best with the slide background. The annotations you draw on a slide are short-lived. They are only meant to emphasize elements of a slide while you are displaying that slide.*

5. Select the annotation icon.

   The annotation icon changes to a mouse pointer. The Pencil pointer disappears, replaced by the mouse pointer.

6. Move the mouse pointer to the third subtitle, Technical library.

   Once again the mouse pointer can be used to point out slide elements to an audience.

7. Click on slide 5 with the left mouse button.

   Slide 5 is replaced by slide 6.

8. Click on slide 6 with the right mouse button.

   PowerPoint returns to slide 5. The annotation line you drew around the fourth subtitle has disappeared.

BLANK OUT THE SCREEN

The speaker, who will be discussing department locations in the new building, wants the screen to be blank after his opening remarks. He wants the audience's attention focused on him. The following steps show you how to do this.

1. Display slide 10, titled "New Locations," in Slide Show view.

2. Press b.

   The screen turns black. Slide 10 disappears.

3. Press **b** again.

   Slide 10 reappears.

There is an alternative method for blanking out the screen. Instead of turning the screen black, you can also turn it white.

4. Press w.

   The screen turns white.

5. Press w again.

   Slide 10 reappears.

SELECT TRANSITIONS

So far, when you have clicked a mouse button in Slide Show view, the slide has disappeared from the screen, to be immediately replaced by the next slide. You can, however, make this change more interesting for your audience. **Transitions** are visual effects that determine how one slide is replaced by another on screen. In the next few steps, you will add transitions to slides.

1. Display the MOVING.PPT presentation in Slide Sorter view. Slide 10 should still be selected.

   As you may have noticed before, in Slide Sorter view the Formatting toolbar is replaced by another toolbar. This is the Slide Sorter toolbar. The first item on the Slide Sorter toolbar button is the Transition button.

2. Click on the Transition button now.

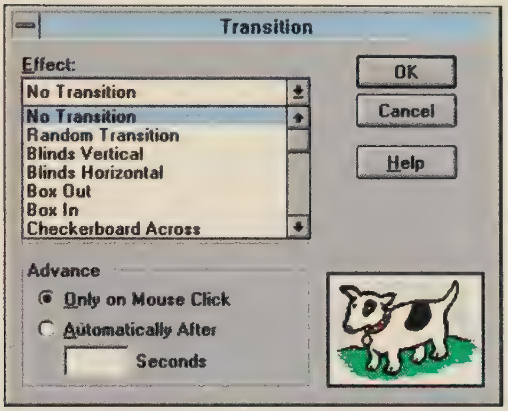
   The Transition dialog box opens.

3. Open the Effect list box.

   As shown in Figure 5-7, a list of possible transition effects appears.

FIGURE 5-7

A list of possible transition effects.



Effect: No Transition

Advance: ● Only on Mouse Click ○ Automatically After Seconds

4. Select Blinds Horizontal.

   The Transition View box (in the lower-right corner of the dialog box) changes from displaying a dog to displaying a key. The important thing, however, is not that the preview changed but how it changed. The transition used in the Transition View box is the transition you selected.

5. This time, select Checkerboard Across in the Effect list box.

   The Checkerboard Across transition is used in the Transition View box.

6. The transition seems too fast, so select the Medium radio button in the Speed section of the dialog box.

   The Transition View box previews the Checkerboard Across transition at a slower speed. Notice that you did not have to reselect the Checkerboard Across transition. When you change speeds, PowerPoint previews the new speed using the transition you have already selected.

VIEW TRANSITIONS WITH AUTOMATIC SLIDE ADVANCEMENT

So far, when you have displayed presentations in Slide Show view, you have clicked with the left mouse button to advance a slide and with the right mouse button to return to a previously shown slide. You can, however, ask PowerPoint to advance slides automatically.

1. Select the Automatically After option in the Advance section of the Transition dialog box.

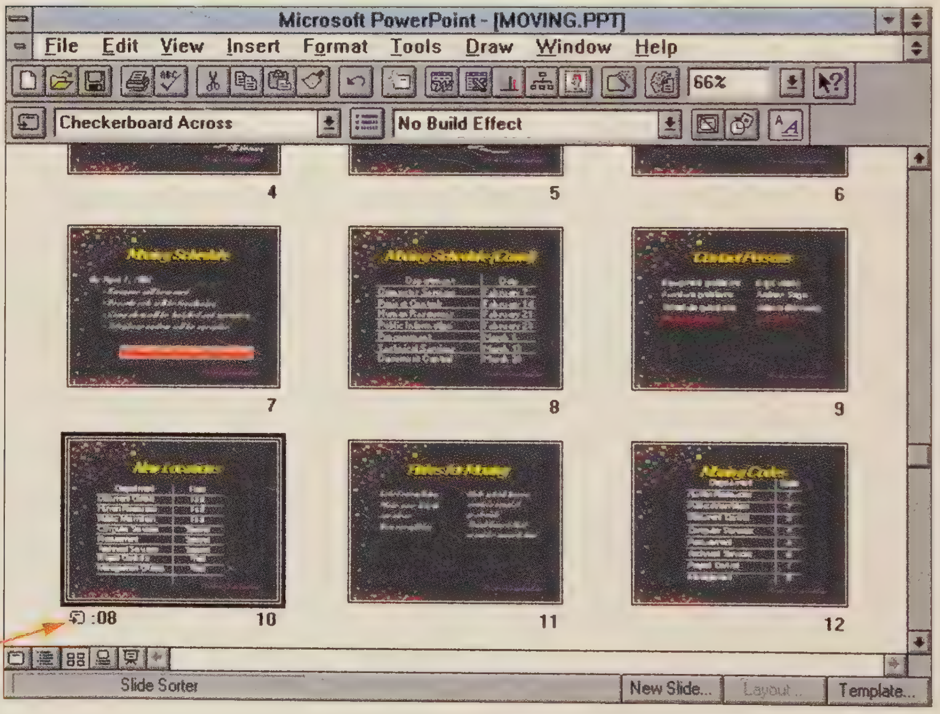
   A zero appears in the Seconds text box. It is highlighted. Here you select how long you want PowerPoint to display each slide.

2. Enter 8 and click on OK.

   The Transition dialog box closes. A transition symbol has been placed below the left corner of slide 10, as shown in Figure 5-8. This symbol reminds you that a transition effect has been applied to this slide. To the right of the transition symbol is the time you have selected in the Seconds text box, :08. Notice that the transition symbol only appears below slide 10.

FIGURE 5-8

Slide 10 with a transition symbol and the number of seconds selected.



Transition symbol

3. Select slide 1.

   Wait for the transitions to begin...Nothing happens. What went wrong?

4. Switch to Slide Show view.

5. Use the mouse pointer to advance the presentation to slide 9.

6. Click the left mouse pointer again.

   Now the transition occurs. Because you only selected a transition for slide 10, only that slide has a transition. In addition, because you advanced to slide 10 manually, the Automatically After selection is not operating.

PowerPoint does not assume that you want a transition to affect all slides because there may be times when you want a transition only between one or two slides. For example, the MOVING.PPT presentation has two "continued" slides. You might want a transition for these slides and no others.

7. Return to Slide Sorter view.
8. Select the Select All command from the Edit menu.

   Now the familiar black border surrounds all the slides, not just slide 10. This means that all slides have been selected. Any transitions you select now will affect all the slides.

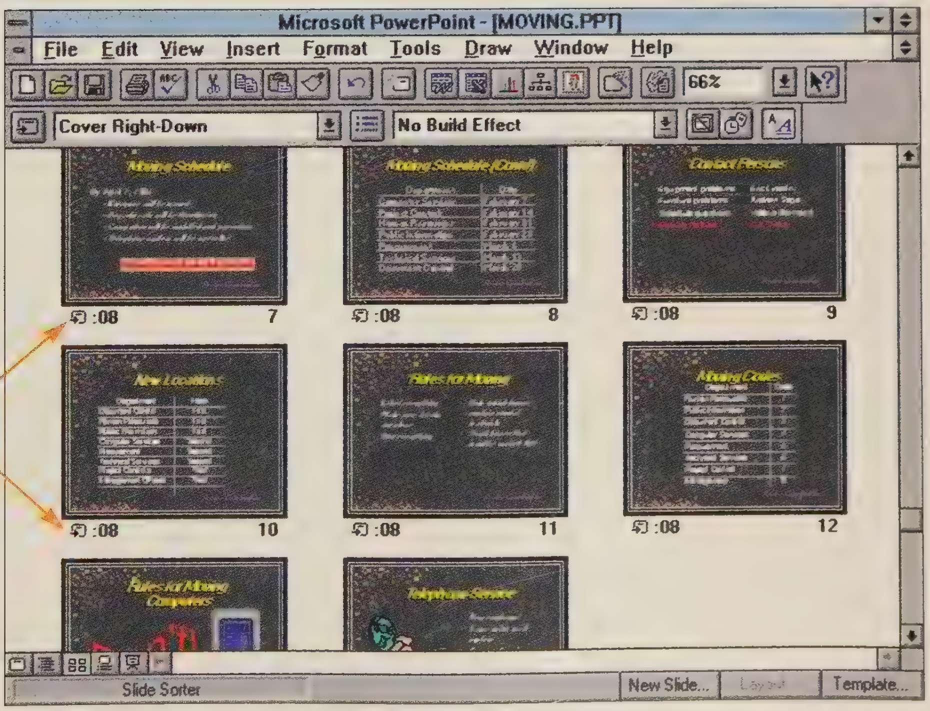
9. Click on the Transition toolbar button.

   The Transition dialog box reappears.

10. Choose Cover Right-Down from the Effects list box.
11. Select the Automatically After option.
12. Enter 8 in the Seconds text box.
13. Click the OK button.

    As shown in Figure 5-9, each slide now has a transition symbol.

FIGURE 5-9
Each slide now has a transition symbol.



Transition symbols

Now that you have finished selecting options in the Transition dialog box, you are ready to use the Slide Show dialog box to show a slide show with transitions. You will use the Slide Show dialog box in the next section.

TIP

Although it does not offer the preview function or options of the Transition dialog box, the Transition Effects list box on the Slide Sorter toolbar offers a quick way to select a transition effect.

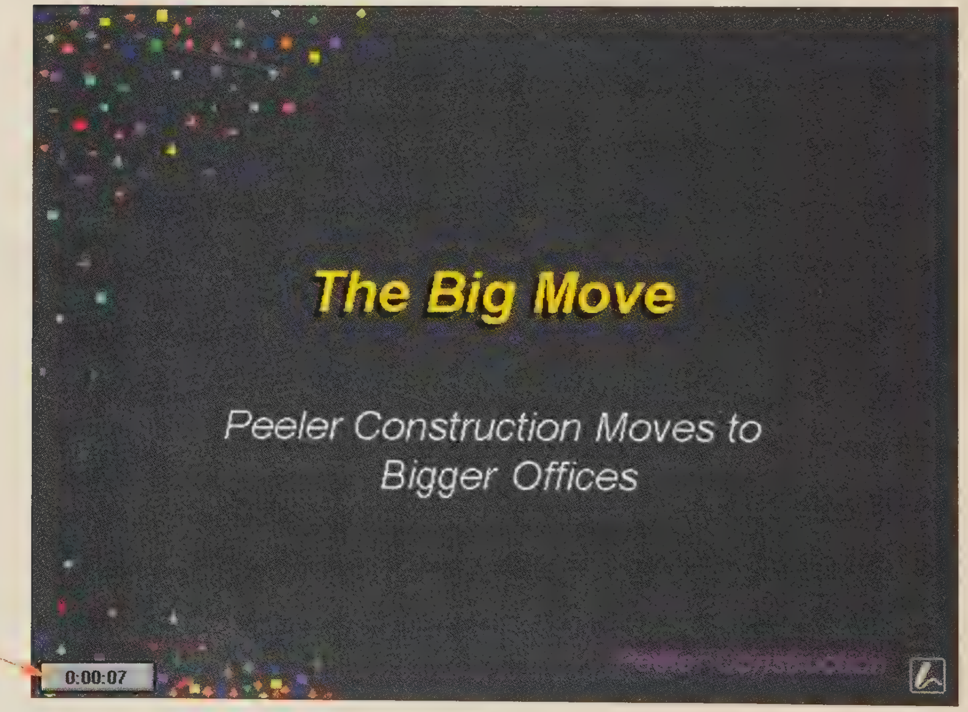
REHEARSE SLIDE TIMINGS

The advance setting of 8 seconds that you chose on the Transition dialog box is fine for previewing a presentation, but it does not allow a speaker much time to talk. The head of the moving committee joins you now. He wants to rehearse the time he thinks each speaker will need to speak. The following steps will show you how to set rehearsed slide timings.

1. On the Slide Sorter toolbar, click the fourth button, Rehearse Timing. The **Rehearse Timing button** begins the slide timing process.

   The presentation is displayed in Slide Show view. At the bottom left corner of slide 1, a **Time button** *appears, displaying the passage of time, as shown in Figure 5-10.*

FIGURE 5-10
Slide 1 with a Time button displayed.



The Big Move

Peeler Construction Moves to Bigger Offices

0:00:07

Time button

2. After 10 seconds have passed, click on the Time button.

   PowerPoint takes you to slide 2. The Time button begins at zero each time you move to a new slide.

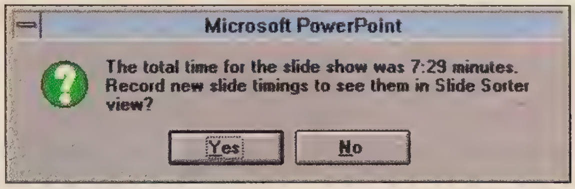
3. Move through the presentation, allowing the time you think it would take to speak about each slide. (You can abbreviate the time you spend on each slide in this practice.)

4. When you feel enough time has passed for the last slide, click on the Time button.

   The MOVING.PPT presentation is displayed in Slide Sorter view. As shown in Figure 5-11, a message box appears, telling you the timed length of the presentation and asking you if you want to record the new slide timings.

FIGURE 5-11

PowerPoint asks if you want to record the rehearsed slide timings.



Microsoft PowerPoint

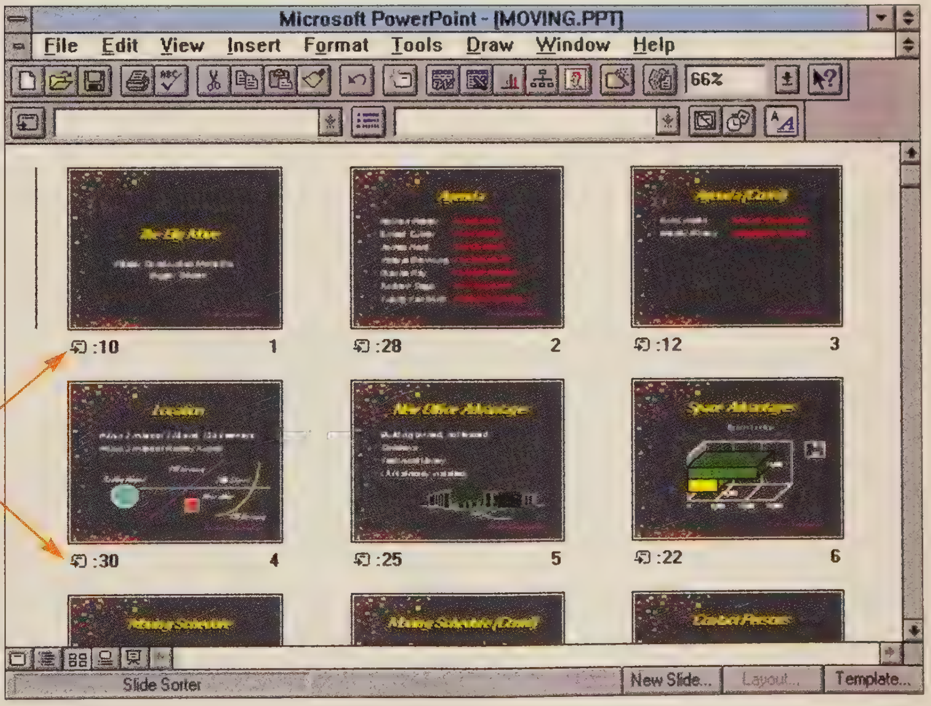
The total time for the slide show was 7:29 minutes. Record new slide timings to see them in Slide Sorter view?

5. Click on the OK button.

   The message box disappears. Each slide in Slide Sorter view now displays the rehearsed timings, as shown in Figure 5-12.

FIGURE 5-12

Each slide now displays rehearsed slide timings.



Rehearsed slide timings

6. Select the Slide Show command from the View menu.

   The Slide Show dialog box opens. As when clicking on the Slide Show view button, this dialog box will run a presentation in Slide Show view.

7. If it is not already selected, choose the Use Slide Timings option.

8. Select the Show button.

   The MOVING.PPT presentation is shown in Slide Show view. Each slide will be displayed for as long as its recorded timing calls for. Notice that no Time button appears.

9. Press [Esc].

   The presentation is displayed in Slide Sorter view.

10. Save and close the MOVING.PPT presentation.

ADD BUILDS TO A SLIDE

As you have seen, transitions offer an eye-catching way to move from slide to slide. In the following steps, you will use builds to move in an eye-catching way from subtitle to subtitle within a slide. **Builds** highlight one subtitle at a time. They can be added to one slide or to an entire presentation.

1. Open the PHOTO.PPT presentation on your Student Data Disk.

2. Display the presentation in Slide Sorter view.

3. Click on slide 6.

4. Click on the Build button, the second button on the Slide Sorter toolbar.

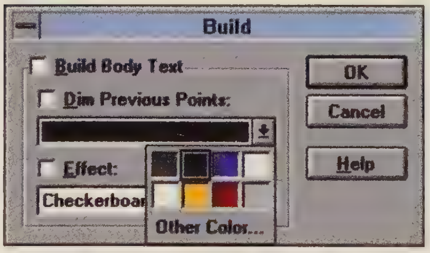
   The Build dialog box opens.

5. Click the arrow beside the Dim Previous Points list box.

   The list box opens, displaying color samples, as shown in Figure 5-13, similar to the Text Color samples.

FIGURE 5-13

The Build dialog box.



Build

☐ Build Body Text

☐ Dim Previous Points:

☐ Effect:

Checkerboar

6. Click on the seventh sample, maroon.

   The list box closes. Maroon replaces black in the Dim Previous Points list box. Notice that the Build Body Text and Dim Previous Points check boxes are now checked.

Now when a new subtitle appears on this slide during a presentation, previous subtitles will be dimmed in maroon. Next you will select the effect to be used when a new subtitle appears on this slide.

7. Click the arrow beside the Effect list box.

   A list of effects appears, the same effects you saw in the Effect list box in the Transition dialog box.

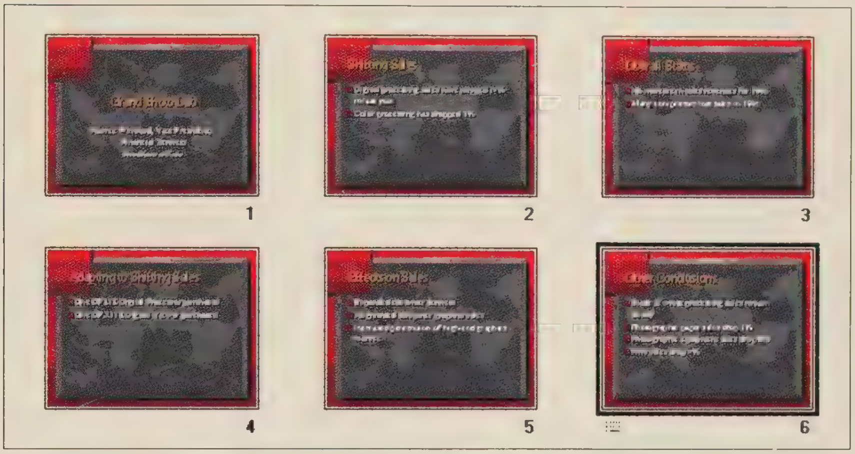
8. Click on "Dissolve."

   The list box closes. Now the Effect check box is checked.

9. Click on the OK button.

   The dialog box closes. As shown in Figure 5-14, a build symbol can be found below slide 6.

FIGURE 5-14
Slide 6 now has a build symbol.



CHECK BUILDS IN SLIDE SHOW VIEW

Now you will check the builds you added by displaying slide 6 in Slide Show view.

1. Click on the Slide Show View button.

   Slide 6 appears.

2. Click the left mouse button.

   The first subtitle appears in white.

3. Click the left mouse button again.

   Instead of displaying another slide, PowerPoint displays another subtitle in white, using the effect you selected. The previous subtitle is now dimmed in maroon.

4. Click the left mouse button until all four subtitles are displayed.

5. Press Esc.

   The presentation is displayed in Slide Sorter view. All the subtitles on slide 6 are white, just as they are on every other slide.

ADD BUILDS TO A PRESENTATION

You can add builds to several slides or to an entire presention. Adding builds to an entire presentation is almost as easy as adding builds to one slide.

1. Select the Select All command from the Edit menu.

   Each slide is surrounded by a black border.

2. Click on the Build button.
3. The Build dialog box opens.

   Because a build has been added to slide 6 and not the others, the check boxes are grayed out.

4. Click on the arrow beside the Dim Previous Points list box.

   The color samples appear.

5. Click on the yellow sample.

   The sample box closes. Yellow is now displayed in the Dim Previous Points list box.

6. Click on the arrow beside the Effect list box.
7. Click on the Box Out effect.
8. Click on the OK button.

   The dialog box closes. All slides now have a build symbol below them.

9. Click on the Slide Show View button.

   Slide 1 is displayed.

10. Click with the left mouse button until you have displayed all the slides.

    Each time you click the left mouse button, another subtitle or title appears. Subtitles appear with the effect you selected. Previous subtitles appear in dimmed yellow. When you have displayed all the slides, PowerPoint returns you to Slide Sorter view.

11. Save the presentation as PHOTO1.PPT.
12. Close the presentation.

COMMAND SUMMARY

FEATURE	MOUSE ACTION	KEYBOARD ACTION	ICON
Change print settings	Click on Printer button		
Annotate slides	Click on annotation icon		
Blank out slide (black)		Press **b** during Slide Show view	
Blank out slide (white)		Press **w** during Slide Show view	
Select transitions between slides	Select Tools, Transition; open Effect list box	Alt+t,t	▣
Change intervals for automatic slide show	Enter new time in Seconds box		
Select all slides	Select Edit, Select All or depress Shift and select each slide	Alt+e,l *or* Ctrl+a	
Create builds	Select Tools, Build; open Effect list box	Alt+t,b	☰

MATCHING EXERCISE

Match each of the following terms with its definition:

TERMS	DEFINITIONS
1. Printer button	**a.** Combines slides on a page
2. Pencil pointer	**b.** Used to annotate slide elements
3. transition	**c.** Opens Print Setup dialog box
4. Transition View box	**d.** Displays timing of current slide
5. Seconds text box	**e.** Controls how one slide replaces another
6. Time button	**f.** Used to select slide display intervals
7. Transition button	**g.** Print Setup option that tells PowerPoint this is the printer you use
8. annotation icon	**h.** Previews a transition
9. handout	**i.** Used to turn the Pencil cursor on and off
10. Set As Default Printer button	**j.** Opens the Transition dialog box

MULTIPLE-CHOICE QUESTIONS

Choose the correct answer for each of the following questions:

1. Which of the following is used to stop a Slide Show presentation?
   - **a.** Enter
   - **b.** The left mouse button
   - **c.** The right mouse button
   - **d.** Esc
2. Which of the following options appears on the Slide Show dialog box?
   - **a.** Record Slide Timings
   - **b.** Checkerboard Down
   - **c.** Use Slide Timings
   - **d.** Medium (speed)
3. What is the maximum number of slides that can be printed on a handout page?
   - **a.** 2
   - **b.** 4
   - **c.** 6
   - **d.** 8
4. While you are rehearsing slide timings, how should you advance from slide to slide?
   - **a.** Click on the Time button.
   - **b.** Click with the right mouse button.
   - **c.** Click on the Rehearse Timings button.
   - **d.** Slides advance automatically.
5. You are in Slide Sorter view. What two toolbars are visible?
   - **a.** The Standard and Formatting toolbars
   - **b.** The Standard and Slide Sorter toolbars
   - **c.** The Slide Show and Slide Sorter toolbars
   - **d.** The Transition and Slide Sorter toolbars

6. How can you tell in Slide Sorter view (with no dialog boxes open) that a transition has been added to a slide?
   - **a.** A transition symbol is beneath the slide.
   - **b.** The Transition button is depressed.
   - **c.** The Transition Effects list box is open.
   - **d.** The Rehearse Timings button is depressed.
7. If you want to add transitions to an entire presentation, what must you first do?
   - **a.** Select the first slide.
   - **b.** Select the Transition button.
   - **c.** Display the Slide Sorter toolbar.
   - **d.** Select all the slides.
8. How many options do you have for blanking out a screen during a presentation?
   - **a.** 1
   - **b.** 2
   - **c.** 3
   - **d.** None
9. Builds add interest to subtitles in a similar way that
   - **a.** icons add interest to subtitles.
   - **b.** slides add interest to transitions.
   - **c.** masters add interest to AutoLayout.
   - **d.** transitions add interest to slides.
10. Without using Slide Show view, how can you tell that a build has been added to a slide?
    - **a.** There's a build symbol under the slide.
    - **b.** There's a build symbol above the slide.
    - **c.** There's a build check box in the Slide Show dialog box.
    - **d.** There's a build symbol on the Slide Sorter toolbar.

SHORT-ANSWER QUESTIONS

Write a brief answer to each of the following questions:

1. After you click on the Printer button, what are the two ways you can tell which printer is currently selected?
2. You have drawn a circle around the title of slide 5 during a presentation. After reaching the end of the presentation, you return to slide 5. Has anything changed about slide 5?
3. What happens if you select one slide and then select a transition?
4. What is one advantage of choosing the Black & White option when printing a color slide on a black-and-white laser printer?
5. After rehearsing slide timings, PowerPoint returns you to Slide Sorter view. A message box appears. What important number does it contain?
6. Where does PowerPoint place rehearsed slide timings in Slide Sorter view?

APPLICATION PROJECTS

Perform the following actions to complete these projects:

1. Open the MOVING.PPT presentation. Save it as PROJ5-1.PPT in the PROJECTS directory of your Student Data Disk or on the OVERFLOW disk. Display the presentation in Slide Show view. Draw two underlines under the new Peeler Construction office location on slide 4. Draw an arrow on slide 5 to the first subtitle. Rehearse slide timings for the PROJ5-1.PPT presentation. Allow 40 seconds for each slide, except for slides 1, 3, 6, and 13. Allow 25 seconds for those slides. Save those rehearsal timings. On a separate piece of paper, list how long it will take to run this presentation. Print the PROJ5-1.PPT presentation on as few handout pages as possible. Print slides 5 and 6 on a single handout page. Use the Black & White option. Save and close PROJ5-1.PPT.
2. Open the PHOTO.PPT presentation and save it as PROJ5-2.PPT in the PROJECTS directory of your Student Data Disk. Create transitions for the presentation. Then create slide timings for each slide. (To conserve computer lab time, keep your timings under 30 seconds.) Check the transitions in Slide Sorter view. On a separate sheet of paper, list how long you believe a presenter would actually spend on each slide. Save the presentation.
3. Open the AIRPORT.PPT presentation on your Student Data Disk. Save it as PROJ5-3.PPT in the PROJECTS directory of your Student Data Disk. In this exercise, you will work on a presentation for the Liberty County Transportation Department. To begin with, copy the Agenda slide from the AGENDA.PPT presentation and copy it to the PROJ5-3.PPT

presentation so that the Agenda slide is slide 2. Close the AGENDA.PPT presentation. Edit slide 2 to reflect the following agenda:

Nathan Peeler	Introduction
Valerie Browning	Schedule
Ann Chan	Geotechnical
Gert Holden	Engineering
Gary Ordley	Safety
Nathan Peeler	Management

Open the TRANSPOR.PPT presentation, copy the Transportation Projects slide to the PROJ5-3.PPT presentation, and place it after the Agenda slide.

Next you will create a new slide and place it at the end of the presentation, adding a graph and subtitle to the slide. Type the following for the subtitle: **Hadley and Liberty County airports are similar in yearly passengers, flights per day, and concourse square footage.** Open the AIRPORTS.XLS worksheet on your Student Data Disk. Import the data from this Excel worksheet, and create a graph for the data. Reformat the subtitle to allow room for the graph. Delete the subtitle's bullet. Save the presentation as PROJ5-3.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

4. If you have not completed project 3, open the AIRPORT.PPT presentation on your Student Data Disk. Save it as PROJ5-4.PPT in the PROJECTS directory of your Student Data Disk or on the OVERFLOW disk. Add a slide to the end of the presentation. The slide will contain a table. Create the table using the following information.

COMPANY	AIRPORT PROJECTS
Peeler Construction	8
Roomley Builders	3
Lomlar Construction	1
Miller/Phillips Co.	1

When the table is complete, add a 3 pt outside border and a ¾ pt inside border. Add titles to whatever slides lack titles. Rearrange the slides so that they are in a logical order. Save the presentation as PROJ5-4.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

5. Liberty County's Environmental Services Department has reached the halfway point in its inspection of county water wells. Using the information contained in the following paragraph, create a ten-slide presentation to report the inspection status to the Liberty County Board of Supervisors. To conserve computer lab time, sketch the presentation on paper before you create the presentation in PowerPoint. Create any details you require. The presentation must be in a logical order. Each slide in the presentation must contain the name of the inspection program, THX 3 Inspection Program, and the date (which you choose) the presentation is given. A page number must appear on every slide. The presentation must have a title slide, an organization chart, one graph, and one table. The slide describing the inspection schedule must have an object. On that object must be the words **Ahead of Schedule**.

> Inspection has been completed for 1,400 of the 2,700 wells. Of the 1,400 wells inspected, 310 have been found to contain THX 3. Of the 310 contaminated wells, 280 were found on the Liberty River, site of the old cannon factory. The inspectors believe this is good news because THX 3 apparently has not spread throughout the water table. An unexpected benefit of the inspections has been the discovery that 30 abandoned wells have plenty of perfectly good water. Originally, the inspection process was expected to take two years. After only ten months, however, the inspectors have completed half the inspections. This was accomplished for two reasons. One, businesses and residents have been very cooperative. Two, inspectors have efficiently deployed their staff. If this pace continues, the inspection will finish four months ahead of schedule and $427,000 under budget. In comparison, the inspection program in Hardy County, which is approximately the same size as Liberty County, was also supposed to take two years. Instead, the program took 27 months and ran $115,000 over budget. The Director of Environmental Services, Andras Herzog, wants to commend his management staff: Benjamin Bootorabi, chief inspector; Frances Hatvany, lead inspector; Allison Hodge, lead inspector; Paul River, lead inspector; and Martin Portillo, lead inspector. These inspectors manage a staff of six other inspectors.

Select a transition effect for the presentation. Select timings for each slide. On a separate piece of paper, list the transition effect you chose, the timing for each slide, and the total time required for the entire presentation. Save the presentation as PROJ5-5.PPT. If your instructor has asked that you print your presentation, do so now. Close the presentation.

GLOSSARY

annotation icon Icon in the lower-right corner of a presentation; clicking on the annotation icon changes the pointer into the Pencil cursor for freehand drawing

AutoContent Wizard PowerPoint Wizard that creates a skeleton outline for a fully formatted, eight-slide presentation, based on responses to prompts

background item Element that appears on every slide in a presentation; can be selected only in the Slide Master; any object on a master other than the title or main text is also a background item

Blank Presentation option Presentation creation option that produces a one-slide presentation; user selects the AutoLayout to create the slide; presentation does not have a template attached

builds Effects that highlight one subtitle at a time on a slide, adding a visual effect as each slide appears; builds can be added to a single slide or an entire presentation

clip art Ready-to-use graphic images

column control boxes Gray boxes displayed across the top of a datasheet; useful for highlighting a column in that datasheet

Cue Card Help tool that offers step-by-step instructions; remains open as instructions are followed

datasheet Window within Graph that contains the sample worksheet for data entry

demote Moves a subtitle to the next lowest indent level: a level 1 subtitle becomes a level 2 subtitle; demoted text usually moves to the right

font A collection of text characters in a particular style or typeface, such as boldface, italics, or underlined; a distinctive collection of fonts—such as Courier or Dutch Roman—is a typeface family

font size Size of characters and symbols in one type style; measured in points, 1 inch = 72 points

grouped Text and object (or several objects) that can be moved as one object; a multiple selection treated as a single object in the Group command of the Draw menu

Help pointer Mouse pointer that opens a context-sensitive Help screen, based on which command or element of the PowerPoint screen is clicked on with the pointer; the Help pointer is an arrow beside a question mark

horizontal ruler Graphical bar displayed at the top of the PowerPoint window; used for setting tabs and indents

indent level Number that describes the position of a subtitle; the first level of text under the title is a level 1 subtitle, and so on

indent markers Two triangles, one displayed above the numbers on the ruler and one below; the upper marker controls the first line of a paragraph's text; the lower marker controls the left edge of a paragraph's text

manual formatting Changes made to a presentation (usually one slide at a time), in addition to the formatting contained in the template or master; overrides the template or master formatting

margin marker Small box on the ruler that moves both triangular indent markers at once

master Collection of placeholders for text and repeating items

menu bar Bar across the top of a window that lists all of the menus available to a user, such as File, Edit, Help, and Draw

Notes Pages view One of five PowerPoint views; allows the creation of speaker's notes; combines text and the slide on a sheet of paper

object A shape—such as a rectangle, arrow, or square—used to emphasize a slide or contain text; objects can be created using tools from the Drawing or AutoShapes toolbars

Object Area For AutoLayouts Placeholder area displayed on a Slide Master for subtitles created with AutoLayouts

organization chart Chart showing the structure of an organization and where individual employees fit into that structure

Outline view One of five PowerPoint views; allows entry and editing of the title and body text of a presentation; does not display the slide itself or its graphics

page number object Selection box containing two pound signs; when a presentation is printed or when it is displayed in Slide Show view, this box is converted to sequential page numbers for each slide

Pencil pointer Pointer shaped like a pencil that appears after clicking the annotation icon or the Freeform tool; allows freehand drawing on a slide

Pick a Look Wizard Wizard that creates a fully formatted one-slide presentation; changes presentation master based on selections made

placeholder Reserved space, surrounded by a dotted line, where information is entered; click to type text or double-click to open an embedded application

point Unit for measuring fonts; 72 points = 1 inch

presentation Series of slides shown on a computer, slide projector, or overhead projector; slides can incorporate text-and-graphics images

presentation program Program, such as PowerPoint, that provides tools to create presentations using text, animation, charts, clip art, pictures, shapes, and sounds

promote Moves a subtitle to the next highest indent level: a level 2 subtitle becomes a level 1 subtitle; promoted text usually moves to the left

Rehearse Timing button Button for setting slide timings in a slide show

row control boxes Gray boxes along the left edge of a datasheet; useful for highlighting an entire row

ruler Graphical bar displayed on the left and at the top of the PowerPoint window; lets user see margins, tab stops, and indents and set them with the mouse

slides Images of text and graphics shown on a computer, slide projector, or overhead projector

slide icon Icon that appears next to each slide title in Outline view

slide icon pointer Pointer that shows the position of a slide as it is being dragged

Slide Indicator box Box that shows which slide has been selected

Slide Show view One of five PowerPoint views; shows slides as an electronic presentation on your computer, displaying them on a full screen in presentation order

Slide Sorter view One of five PowerPoint views; allows the examination of an entire presentation and the reordering of the slides within that presentation; the best view for copying, deleting, and moving slides

Slide view One of five PowerPoint views; allows work on all the text and graphics of an individual slide

subordinate chart box Chart box that branches down from another chart box

subtitle In PowerPoint, any text under the title, except text appearing in an object

template Collection of formats that can be applied to a presentation; PowerPoint offers 160 professionally designed templates

Time button Button displaying the length of time a slide has appeared on screen; begins timing as soon as the slide appears; Time button is clicked to move to the next slide

title First line of text in a slide

Title Area for AutoLayouts Placeholder area displayed on a Slide Master for titles created with AutoLayouts

toolbar Collection of buttons that perform some of the most common commands; toolbars change in PowerPoint, depending on the view and whether a graph or organization chart is being inserted

toolbar button Picture or icon representing a specific function

ToolTips box Box that names a toolbar button when the mouse pointer is held over that button for a few seconds; the Status bar shows a longer description of the command while the ToolTip is displayed

transitions Visual effects that determine how one slide is replaced by another on the screen during a slide show; each slide can have its own transition

vertical ruler Graphical bar displayed on the left of the PowerPoint window for setting tabs and indents; useful for precisely placing graphics, such as shapes and clip art, in the same position on a slide

view scale Measurement (in percentages) that controls the magnification of a slide; view scale is changed with the Zoom Control box

INDEX

A

AGENDA1.PPT, 22, 28
AGENDA.PPT, 8–9, 15, 130–131
AIRPORT.PPT, 130, 131
AIRPORT.XLS, 131
All Slide Range option, 115
annotation icons, 117, 133
annotations, 117–118
arrow (two-headed), 54
AutoContent Wizard, 31, 133
  creating with, 32–34
  modifying text in, 35–36
  Pick a Look Wizard compared, 46
  reviewing presentations of, 37
  saving presentations in, 42
  starting, 31–32
  suggestions by, 36
AutoContent Wizard dialog boxes, 32–34
AutoLayouts, 51–52, 57
  titles in, 67
AutoShapes toolbar, 55–56, 57, 77

B

background items, 74, 133
BENEFITS.PPT, 67, 81, 86
BENE.PPT, 67
Black & White option, 113–114, 115
blanking screen, 118, 127
Blank Presentation option, 133
  creating with, 47–48
  templates and, 48
borders, 98, 104
boxes around text, 80–81
Build dialog box, 124
builds, 124, 133
  adding, 124–126, 127
Bullet dialog box, 70, 78, 82
bullets
  changing design of, 69–70
  removing, 78–79
  space between text and, 41–42, 71–72

C

centering in cells, 98
chart boxes
  adding, 102
  deleting, 102–103
  editing, 101
Chart Type list box, 93, 104
Clear command, 91
Click To Add Text placeholder, 49
Click To Add Title placeholder, 48
clip art, 51, 133
  adding with new slide, 51–53
  adding to existing slide, 54–55, 57
  resizing, 54
ClipArt Gallery dialog box, 53
clip art placeholders, 51–53, 55
closing. *See* exiting
colors
  of builds, 124
  of bullets, 70
  of lines, 80–81
  printing, 113–114
  of text, 66, 74–75
Colors And Lines dialog box, 80–81, 82
column control boxes, 91, 95, 133
columns
  deleting, 95
  resizing, 91, 104
  selecting, 95
command summary lists, 24–25, 57, 82, 104, 127
COMMITS.PPT, 89, 99, 100–101, 103
COMMITS.XLS, 89
COMM.PPT, 89
computer projection screen, 116
CONGRAT.PPT, 61
Control-menu box, 23
copying slides, 49–51, 57
Co-worker buttons, 102
cross-hairs pointer, 54, 56
Cue Cards, 5, 133
  in AutoContent Wizard, 35
  finding Help with, 20–21
Current Slide range option, 115
Cut button, 16, 80

D

datasheets, 90, 133
  clearing information from, 91, 104
  editing, 90–93
  exiting, 92, 104
  importing Excel worksheets into, 94–95
  opening, 89, 104
deleting
  bullets, 78–79
  chart boxes, 102–103
  columns, 95
  datasheet information, 91, 104
  slides, 15–16
demoting subtitles, 13, 24, 133
Dim Previous Points list box, 124, 126
dragging
  objects, 56
  organization charts, 103
Drawing toolbar, 10, 73, 77
Draw menu, 10

E

editing
  chart boxes, 101
  datasheets, 90–93
  organization charts, 101–103
  in Outline view, 35–36
  tables, 97–98
  text, 35–36
Edit menu, 10, 91
Effect list boxes, 119, 125, 126
Excel worksheets, 5, 90
  importing, 94–95
Exit And Return To command, 100–101
exiting
  datasheets, 92, 104
  files, 25, 42
  Organization Chart, 100–101
  PowerPoint for Windows, 23
  Slide Master, 76, 82
EXPER2.PPT, 107
EXPER.PPT, 107, 108
EXPER.XLS, 107

F

File menu, 10, 23, 42
File Name list box, 8
files
  creating, 57
  exiting, 25, 42
  locating, 8
  opening, 7–9
  saving, 22, 25
Font list box, 40, 68
fonts, 38, 133
  changing on all slides, 68
  changing on one slide, 40
font size, 133
  changing on all slides, 66
  changing on one slide, 37–39
Font Size list box, 38
Format menu, 10, 78
formatting
  bullets, 69–70, 78–79
  color, 66, 70, 74–75
  fonts, 40, 68
  font size, 38–39, 66
  graphs, 93–94
  indents, 41–42, 71–72
  methods of, 65–66
  standardizing with Slide Master, 66, 68–72
Formatting toolbar, 10, 55–56, 68, 74

G

Genographics Driver On GENI, 112–113
Graph, 89–94, 104
graph placeholders, 37, 89
graphs
  editing datasheets for, 90–93
  importing an Excel worksheet for, 94–95
  reformatting, 93–94
Graph toolbars, 90
grouped items, 79, 82, 133

H

Handout Master, 66
handouts, 111, 114–116
Help, 10
  finding with Cue Cards, 20–21
  searching online for, 19–20
  using Help cursor, 18–19, 133
highlighting. *See* selecting
horizontal ruler, 41, 133

I

icons
  annotation, 117, 133
  PowerPoint for Windows, 6
  slides, 11, 134
Import Data commands, 94–95, 104
indent level, 13, 133
indent markers, 41, 71–72, 133
indents
  changing on all slides, 71–72
  changing on one slide, 41–42
Insert Clip Art button, 54–55
Insert menu, 10, 54, 57, 75
Insert Word Table commands, 96, 104

L

LIBRARY.PPT, 86
Line list box, 80–81
lines
  blinking, 50
  colors of, 80–81
  styles of, 98, 104
Line Style list box, 98, 104

M

magnification, 9, 12, 24
manual formatting, 65–66, 133
margin markers, 71–72, 133
masters, 65, 133
  displaying names of, 67
  uses of, 65–66
Maximize button, 9

- Menu bar, 9, 10, 133
- menus
  - Edit, 10, 91
  - File, 10, 23, 42
  - Format, 10, 78
  - Insert, 10, 54, 57, 75
  - list of, 10
  - View, 10, 41, 71, 72
- Microsoft Graph, 89–94, 104
- Microsoft Organization Chart. *See* Organization Chart
- Microsoft Word, 5, 96
- mouse pointer
  - as blinking line, 50
  - as cross-hairs pointer, 54, 56
  - as Help cursor, 18–19, 133
  - indicating slide elements with, 117–118
  - as pencil cursor, 117
  - as text pointer, 73
  - as two-headed arrow, 54
- MOVING.PPT, 111, 114, 116, 124, 130

N

- New Presentation dialog box, 43, 47–48
- New Slide dialog box, 46–47, 51, 52
- New toolbar button, 43
- Notes Master, 66
- Notes Pages view, 11, 133
  - finding Help for, 18–19
  - Notes Master and, 66

O

- Object Area For AutoLayouts, 68, 134
- objects, 55, 134
  - adding to all slides, 76–78
  - adding to one slide, 55–56, 79–80
  - dragging, 56
  - resizing, 56
- Open dialog box, 8–9
- opening
  - datasheets, 89, 104
  - files, 7–9
  - Organization Chart, 99, 102–103
  - *See also* starting
- Organization Chart
  - exiting, 100–101
  - opening, 99, 102–103
- organization chart placeholder, 99
- organization charts, 99, 134
  - deleting chart boxes of, 102–103
  - editing, 101–103
  - inserting, 99–100, 104
  - repositioning, 103
- Other Color dialog box, 74, 82
- Outline Master, 66
- Outline view, 11, 134
  - editing text in, 35–36
  - Outline Master and, 66
  - viewing slides in, 11–13
- overhead projectors
  - computer projection screens and, 116
  - printing for, 111

P

- Page Number command, 75
- page number insertion, 46, 75–76, 82
- page number object, 75, 134
- page number placeholder, 46
- Paste button, 16, 80
- pencil pointer, 73, 117, 134
- PHOTO1.PPT, 126
- PHOTO.PPT, 124, 130
- Pick a Look Wizard, 134
  - AutoContent Wizard compared, 46
  - creating slides with, 44–47
  - saving presentation in, 47
  - starting, 43
- PINGPONG.PPT, 28
- placeholders, 37, 134
  - Click To Add Text, 49
  - Click To Add Title, 48
  - clip art, 51–53, 55
  - graph, 37, 89
  - masters and, 65, 66, 67
  - organization chart, 99
  - page number, 46
  - removing, 91, 95
  - table, 37, 96
  - text, 48, 49, 66, 67
  - Type Name Here, 99–100
- pointers. *See* mouse pointer
- points (for font size), 38, 134
  - changing, 37–39
- PowerPoint Startup dialog box, 7–8
- PowerPoint window, 9–10
- PowerPoint for Windows
  - exiting, 23
  - icon for, 6
  - starting, 5–7, 24
- presentation programs, 3–5, 134
- presentations, 3, 134
  - advantages of, 3–5
  - builds in, 124–126
  - clip art in, 51–55, 57
  - creating with AutoContent Wizard, 31–42
  - creating with Blank Presentation, 47–48
  - creating with Pick a Look Wizard, 43–47
  - customizing with Slide Master, 66–81
  - graphs in, 89–95
  - objects in, 55–56, 76–80
  - organization charts in, 99–103
  - printing, 21–22, 25, 111–116
  - producing, 116–126
  - saving, 22, 25, 42, 47
  - spell checking, 21, 24
  - tables in, 96–98
  - viewing, 9, 11–18, 37
- Presentation Template dialog box, 44–45, 48, 57
- Print commands, 21–22, 112, 113–114, 127
- Print dialog box, 21, 112, 113–114
- printers, 111–113
- printing, 21–22, 25
  - handouts, 111, 114–116
  - overheads, 111
  - slides, 113–114
- Print Setup dialog box, 112–113
- Print What list box, 115
- PROCED.PPT, 47, 61
- Program Manager, 6
- PROJ1-1.PPT, 28
- PROJ1-2.PPT, 28
- PROJ1-3.PPT, 28–29
- PROJ1-4.PPT, 29
- PROJ2-1.PPT, 61
- PROJ2-2.PPT, 61
- PROJ2-3.PPT, 62
- PROJ2-4.PPT, 62
- PROJ2-5.PPT, 63
- PROJ3-1.PPT, 86
- PROJ3-2.PPT, 86
- PROJ3-3.PPT, 86
- PROJ3-4.PPT, 86
- PROJ3-5.PPT, 87
- PROJ4-1.PPT, 107
- PROJ4-2.PPT, 108
- PROJ4-3.PPT, 108
- PROJ4-4.PPT, 108
- PROJ4-5.PPT, 108
- PROJ5-1.PPT, 130
- PROJ5-2.PPT, 130
- PROJ5-3.PPT, 130–131
- PROJ5-4.PPT, 131
- PROJ5-5.PPT, 132
- promoting subtitles, 13, 24, 134
- Pure Black & White option, 114, 115

Q

- quitting. *See* exiting

R

- RAINFALL.PPT, 28
- reformatting. *See* formatting
- Rehearse Timing button, 122, 134
- resizing
  - clip art, 54
  - columns, 91, 104
  - fonts, 37–39, 66
  - objects, 56
  - subtitles, 37–39
- row control boxes, 91, 95, 134
- rows, 91
- Ruler command, 41, 71, 72
- rulers, 41, 71, 134

S

- SALES1.PPT, 42, 49–51, 54, 55–56, 61
- Save As dialog box, 22, 42
- saving presentations, 22, 25, 42, 47
- screen blanking, 118, 127
- Scrolling
  - commands for, 24
  - Slide View and, 69
- Search button, 19
- Search dialog box, 19–20
- selecting
  - columns, 95
  - printers, 111–113
  - rows, 91
  - slides, 121, 127
  - templates, 44–45, 48
  - text, 35, 36, 37–38, 39
- selection box, 75, 79, 80
  - turning on and off, 77, 81, 82
- shapes. *See* objects
- sizing. *See* resizing
- slide icon, 11, 134
- slide icon pointer, 16, 134
- Slide Indicator box, 14, 134
- Slide Master
  - adding objects with, 76–78
  - adding page numbers with, 75–76
  - adding text labels with, 73
  - changing bullets with, 69–70, 78–79
  - changing indents with, 71–72
  - changing text label color with, 74–75
  - exiting, 76, 82
  - overriding, 78
  - reformatting with, 66, 68–72
  - starting, 66–67, 82
  - uses of, 65–66
- slides, 3, 134
  - advancing, 120, 126
  - annotating, 117–118
  - copying among presentations, 49–51, 57
  - creating with Pick a Look Wizard, 45–46
  - deleting, 15–16
  - length of displaying, 120, 122–124
  - magnification of, 12, 24
  - previewing first, 8
  - printing, 113–114
  - rearranging, 15–17, 24
  - selecting, 121, 127
  - timing, 122–123
  - transitions in, 118–122
- Slide Show dialog box, 123–124
- Slide Show view, 11, 17–18, 123–124, 134
- Slide Sorter view, 11, 134
  - copying slides with, 50–51
  - examining presentation in, 15–17
  - Handout Master and, 66
  - rehearsed timings in, 123
- Slide view, 9, 11, 134
  - Slide Master and, 69
  - viewing slides in, 14–15
- Slide View button, 67, 69
- Special Color list box, 70, 74
- Spell checking, 21, 24
- Spelling dialog box, 21
- Standard toolbar, 10, 54

starting
  AutoContent Wizard, 31–32
  Graph, 89–90, 93, 104
  Pick a Look Wizard, 43
  PowerPoint for Windows, 5–7, 24
  Slide Master, 66–67, 82
  Windows, 5–6
  See also opening
Startup dialog box, 31–32, 43
Student Data Disk
  LESSONS directory, 8
  opening files from, 8–9
  PROJECTS directory, 28
subordinate chart box, 100, 134
subtitles, 13, 134
  changing font of, 40
  changing levels of, 13, 24
  resizing, 37–39
  selecting, 35, 36, 37–38, 39
  See also titles
Summary Info dialog box, 42, 47

T

table placeholders, 37, 96
tables
  adding, 96
  editing, 97–98
  resizing columns in, 91, 104
templates, 43, 134
  Blank Presentation option and, 48
  changing design elements of, 69–72
  relation to other formatting methods, 65–66
  selecting, 44–45, 48
text
  adding to slide, 48–49
  boxes around, 80–81
  coloring of, 66, 74–75
  deleting from datasheet, 91
  editing, 35–36
  reformatting with Slide Master, 68–69
  selecting, 35, 36, 37–38, 39
  space between bullets and, 41–42, 71–72
Text Color button, 74
Text Color samples, 82
text labels
  adding, 73
  changing color of, 74–75
text placeholders, 48, 49, 66, 67
text pointer, 73
Text Tool button, 73, 77
Time button, 122, 134
Tip of the Day dialog box, 6–7, 31
Title Area for AutoLayouts, 67, 135
titles, 11, 134
  in AutoLayouts, 67
  reformatting with Slide Master, 68–69
  See also subtitles
toolbar buttons, 10, 135
toolbars, 10, 135
Tools menu, 10
ToolTips box, 11, 135
Transition dialog box, 119, 120, 121–122
Transition Effects list box, 122
transitions, 118, 135
  adding to slides, 118–119
  commands for, 119, 122, 127
  viewing, 120–121
transitions symbol, 120
TRANSPOR.PPT, 49–51, 131
Type Name Here placeholder, 99–100

U

Undo commands, 72, 82

V

vertical ruler, 41, 135
View menu, 10, 41, 71, 72
views
  list of, 11
  magnification of, 9, 12, 24
  switching among, 11, 14, 15, 17, 24
  transitions and, 120–121
  See also individual view names
view scale, 12, 24, 135

W

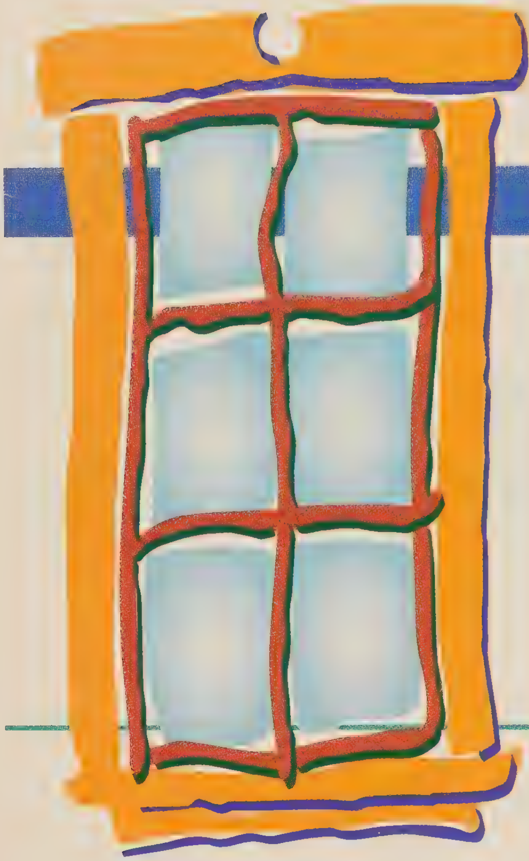
white screen, 118, 127
Window menu, 10
Windows, 5–6
Wizards, 5
  See also AutoContent Wizard; Pick a Look Wizard
Word, 5, 96
Word toolbars, 96, 97

Z

Zoom Control arrow, 12

MS OFFICE LESSON 4

INTEGRATING WORD, EXCEL, ACCESS, AND POWERPOINT DATA



LESSON 4

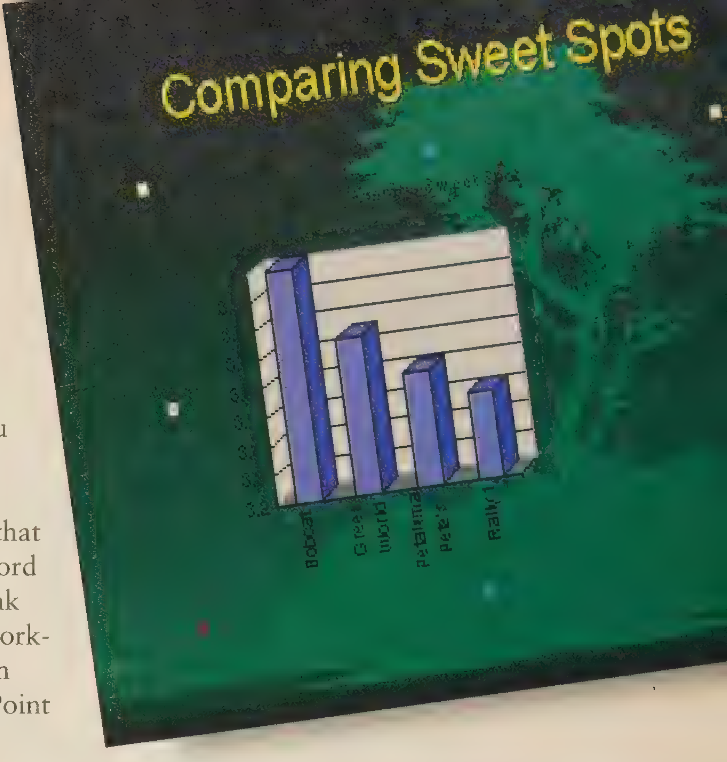
INTEGRATING WORD, EXCEL, ACCESS, AND POWERPOINT DATA

OBJECTIVES

After completing this lesson, you will be able to do the following:

- *Use a Word document to create a PowerPoint presentation.*
- *Embed a PowerPoint presentation into a Word document.*
- *Link an Excel chart, created using data from Access, into a PowerPoint slide.*

So far, you have practiced sharing information among Word, Excel, and Access. In this lesson, you will share information among Word, Excel, Access, and PowerPoint. You will begin by creating a presentation that is based on a Word document, then copy that presentation into another Word document. Next, you will link Access data with an Excel worksheet and create a chart, then link the chart with a PowerPoint slide.



SHARING INFORMATION BETWEEN WORD AND POWERPOINT

Many people who have PowerPoint still prefer to develop their ideas in Word, rather than in PowerPoint's Outline view, either because they are most comfortable using a word processor, or because they want access to more text editing features than are available in PowerPoint. If you prefer to work in Word, you can create a document in Word's Outline view and use that document as a presentation outline.

CREATE A POWERPOINT PRESENTATION FROM A WORD OUTLINE

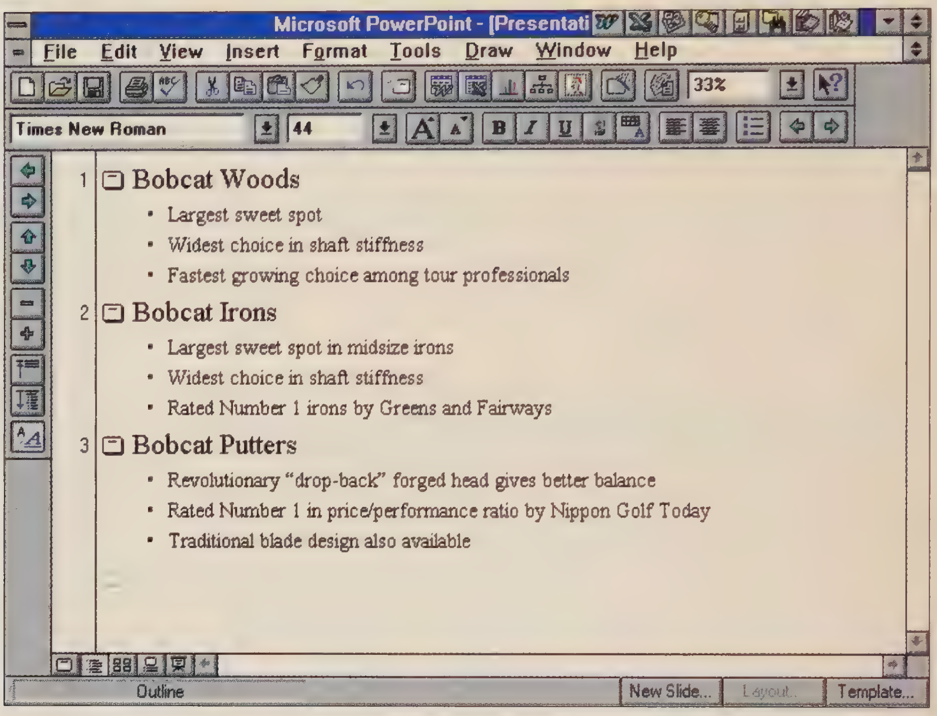
In the following steps you will import a Word outline into PowerPoint. First, take a look at the Word document.

1. Start PowerPoint.
2. Close the dialog boxes that appear.
3. Place the Lesson Disk in the floppy drive.
4. Click on the Open toolbar button.
5. Choose Outlines from the List Files Of Type drop-down list.

   PowerPoint considers various file extensions (.WPS, .DOC, and so on) when looking for possible outlines. These file extensions are now listed in the File Name text box.

6. Double-click on BOBCAT.DOC on your Lesson Disk.

   PowerPoint displays the BOBCAT text as an outline in Outline view. As shown in Figure 4-1, PowerPoint has created a new slide for every paragraph of Word text that was formatted with the Heading 1 style. Heading 2 paragraphs are formatted as subtitles. This is the advantage of formatting Word text as an outline before importing it into PowerPoint.


Microsoft PowerPoint - [Presentati
File Edit View Insert Format Tools Draw Window Help
33%
Times New Roman
44
B I U
Outline
New Slide...
Layout...
Template...

1 Bobcat Woods
- Largest sweet spot
- Widest choice in shaft stiffness
- Fastest growing choice among tour professionals

2 Bobcat Irons
- Largest sweet spot in midsize irons
- Widest choice in shaft stiffness
- Rated Number 1 irons by Greens and Fairways

3 Bobcat Putters
- Revolutionary “drop-back” forged head gives better balance
- Rated Number 1 in price/performance ratio by Nippon Golf Today
- Traditional blade design also available

FIGURE 4-1
The Word outline imported into PowerPoint.

7. Save the file as BOBCAT.PPT on the Lesson Disk.

ADD A TEMPLATE TO THE IMPORTED PRESENTATION

To make the current presentation look more polished, you need to add a template.

1. Click on the Slide View button.

   Notice that no template has been attached to this presentation.

2. Click on the Template button on the PowerPoint Status bar.

   The Presentation Template dialog box opens.

3. Select the ISLANDS.PPT template file in the SLDSHOW directory, then click on the Apply button.

COPYING A POWERPOINT PRESENTATION TO A WORD FILE

In business, it is often necessary to share a presentation with your colleagues before you present it. If your colleagues do not have PowerPoint on their computers, you can still give them a copy of your presentation by copying it into a Word document and providing them with a copy of the PowerPoint Viewer. The PowerPoint Viewer is a viewing tool that lets users see, but not create or edit, a presentation. To copy the BOBCAT presentation to a Word file, you simply select the entire presentation in Slide view, copy it, open a new Word document, and paste. To see the presentation in the Word document, you need the PowerPoint Viewer installed on your hard disk. The PowerPoint Viewer program icon is shown at left.

USING THE REPORT IT FEATURE

There is one other way to share information between PowerPoint and Word. Just to the left of the Zoom Control box in PowerPoint is the Report It button. When you click on the Report It button, the text of the current presentation is added to a new, untitled Word document. The new document is given the same name as the PowerPoint file, but includes the extension .RTF, which stands for Rich Text Format. RTF is a simplified text format that can be transferred among many different applications.

LINKING AN EXCEL CHART TO A POWERPOINT SLIDE

For information that changes frequently in a presentation that you are going to give more than once, linking an Excel chart with a PowerPoint slide can save you time and effort. In the following steps, you will do this with a chart that you will create using information that has been entered in an Access database.

COPY AN ACCESS DATABASE TO AN EXCEL WORKSHEET

The data that needs to be charted is currently stored in an Access database. To create the chart, you need to embed the data within an Excel worksheet.

1. Start Access.
2. Open the BOBCAT.MDB database on the Lesson Disk.
3. Hide the Cue Cards and double-click on Sweet Spots to open the Sweet Spots table.
4. Highlight the data in the ClubMaker and Average Sweet Spot fields.

5. Click on the Copy button.
6. Close the Sweetspots table, then close the BOBCAT.MDB database, then exit Access.
7. Start Excel using the Office Manager toolbar.
8. In the untitled worksheet window, click on the Paste button.
9. Create the 3-D column chart using the data.
10. Save the worksheet as SWEET.XLS on the Lesson Disk.

   Excel creates the chart. It should look similar to Figure 4-2.

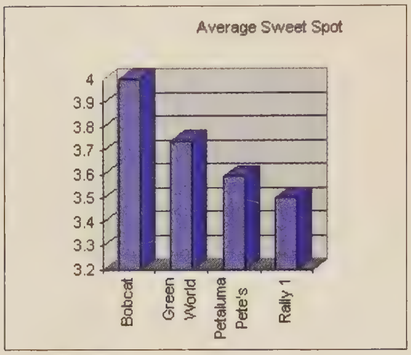


FIGURE 4-2
The Excel chart.

LINK THE CHART TO THE PRESENTATION

Now you are ready to link the chart with your presentation.

1. Make sure the chart is selected, then click on the Copy button.
2. Switch to PowerPoint by clicking on the PowerPoint button on the Office Manager toolbar.
3. Click on the Slide Sorter View button.
4. Add a fourth slide that includes a graph placeholder, then double-click on the slide to see it in Slide view.
5. Give the slide the title "Comparing Sweet Spots," then press Enter.
6. Click *once* only in the graph section of the slide.

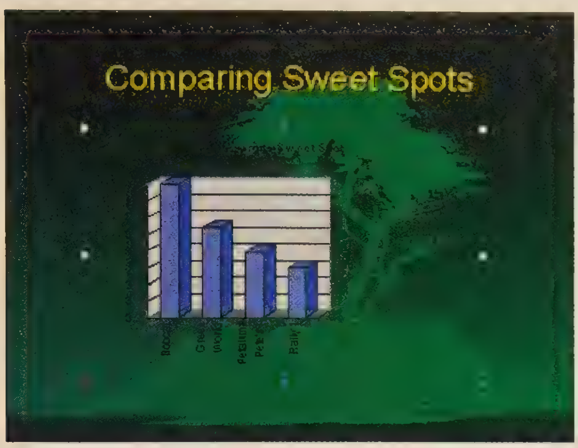
TIP *Step 7 will not work if you double-click on the graph section of the slide.*

7. Select Paste Special from the Edit menu.

   This time, notice that the first item is called Microsoft Excel 5.0 Chart Object.

8. Click on the Paste Link option.
9. Click the OK button.

   The chart, as shown in Figure 4-3, is inserted into slide 4.



Comparing Sweet Spots

FIGURE 4-3
The linked chart.

10. Use the sizing handles to adjust the size of the chart to fit onto the slide.

    At this point, you can double-click on the chart to return to Excel. You might do so if you wish to reformat the chart or add a title or legend. Any changes you make in the Excel file will appear in the PowerPoint presentation.

    When you are done,

11. Save and close the chart, then exit Excel.
12. Print slide 4, unless your instructor or lab assistant has asked you not to.
13. Save and close BOBCAT.PPT, then exit PowerPoint.

APPLICATION PROJECTS INTEGRATING WORD, EXCEL, ACCESS, AND POWERPOINT DATA

Perform the following actions to complete these projects. Projects 1 through 3 result from your work finalizing a client's presentation.

1. Open the CHAO.DOC file on your Project Disk. Save the file as CHAO_1.DOC on your Project Disk. Import the outline in the CHAO_1.DOC document into PowerPoint. Save the PowerPoint document on the Project Disk as CHAO.PPT. Add a template of your choosing to the presentation. Add a title slide, including appropriate text, to the presentation. Add two background items to the presentation: a page number and a company name (for example, Anthony Chao, Personal Training). Save the presentation under its present name. If your instructor has asked you to print this presentation or part of the presentation, do so now.

2. Create a new Word document, using the normal template. Save the document as CHAO_2.DOC. Embed the CHAO.PPT presentation in the document. Center the slide on the page. Add the following text below the slide:

   This is the latest draft of the presentation, Anthony. Please review it. Once you have approved the text, we will begin integrating graphics and special effects.

   Maxine

   Run the presentation from the Word document, noting the colors of the slide elements. Advance to slide 4 and use the Pencil cursor to draw a line around the last subtitle on the slide. Answer the following questions on a separate sheet of paper:

   a. Is it possible to move forward and backward in the presentation?

   b. What color was the line you used to highlight the subtitle on slide 4?

   c. What color is the page number on slide 2?

   d. Is it possible to blank out a slide to black or white?

   Save the document on the Project Disk. Name it CHAO_3.DOC. If your instructor has asked you to print this presentation or part of the presentation, do so now. Close the presentation.

3. Open the CHAONOTE.DOC document on your Project Disk, and save it as CHAONO_1.DOC. These are the changes your client would like made in the presentation. Read the instructions in the first paragraph; then make the changes that are listed in the second paragraph to the presentation. Before you change the CHAO.PPT presentation, save it as CHAO_1.PPT. Add any details you believe are necessary. When you have completed your additions to the presentation, use the Report It

feature to create a Word document reflecting the new text. Save it under its current name. If your instructor has asked you to print any of the documents created during this project, do so now. Close the files you currently have open.

4. Open the PHOTO.PPT presentation stored on the Project Disk. Switch to Word and create a new document using the normal template. Name the file PHOTO_1.DOC and save it to the Project Disk. Embed the PROJ5-2.PPT presentation into the PHOTO_1.DOC document. Run the presentation from the Word document and answer the following questions:

   a. Do the transitions look as you would expect? Explain.

   b. If you had received the PHOTO_1.DOC document and you did not have PowerPoint, would you be able to run the embedded presentation using the slide timings? If not, why not? If so, how would you do it?

   If your instructor has asked you to print the PHOTO_1.DOC, do so now. Close the files you currently have open. Save the PHOTO_1.DOC under its current name.

5. Open the BOBCAT.PPT presentation from the Lesson Disk. Save it as BOBCAT_1.PPT on the Project Disk. Reformat the chart in slide 4 so that the chart title and axis labels are more visible against the slide background. Format the Y axis so that it is also easier to read. Increase the size of the fonts used for the chart title and axis labels so they are more readable. Format the chart area so that it has no color. If you need help, click the Help cursor on the Leading Maker Golf Bags chart. Select the "What Is a Chart" topic on the Chart Sheet Help window. On the "What Is a Chart" Help window, select the "Guide to Formatting Chart Items" topic. (Hint: Try reducing the distance between the chart title and the chart.) After you have finished reformatting the chart, resize it to the largest size possible on slide 4. If your instructor has asked you to print this presentation, do so now.

6. Save the BOBCAT_1.PPT presentation as BOBCAT_2.PPT on the Project Disk. Add a new slide 2. Choose an AutoFormat that includes a large graph. Open the BOBCAT.XLS spreadsheet on your Project Disk and switch to the Club Heads worksheet. Link the Average Sweet Spot chart with slide 2. Once the chart is linked, reformat it so that it resembles the chart in slide 5 (formerly slide 4). When the chart is reformatted to your satisfaction, enlarge it to the greatest size that the slide 2 borders will allow. When you have finished with slide 2, embed the presentation into a new document in Word. Name the document BOBCAT_2.DOC and save it on the Project Disk. If your instructor has asked you to print this presentation, do so now. Close all open files.

Project 7 concerns your job with the Pet Deli, Inc.

7. The Pet Deli, Inc. manufactures and distributes low-waste, highly nutritional dog and cat food. Use the following information to prepare a presentation to be shown at the annual Pet Nutrition Association convention next month. To complete the presentation, you can use information stored in the PETDELI.XLS spreadsheet on your Project Disk. Although it is incomplete, an outline for the presentation can be found in the PETDELI.DOC document, also found on your Project Disk. Not only must you create the presentation, but you need to send elements of the presentation to the Pet Deli, Inc. corporate office in Wethersfield, Connecticut. Create two files: one to send the text of the presentation to the company president and the other to send the presentation so that it can be run and reviewed by the vice president of marketing. Use the skills you have practiced in the previous lesson to accomplish these tasks. Save the files as PETDELI1.DOC and PETDELI1.PPT on the Project Disk.

Pet Deli, Inc. manufactures dog food scientifically designed for three ages of dogs: puppies, adult dogs, and mature dogs. PuppyGrow is a tasty, mini-sized kibble formulated to promote growth and provide energy for dogs under two years old. Maxi Kibble Supreme is an oven-baked kibble for adult dogs of average weight. Kibble Senior provides the same nutrition as Maxi Kibble Supreme in a form that's easier to chew and digest. Pet Deli, Inc. offers two categories of cat food: for kittens and for adult cats. Paws is a savory combination of chicken, seafood, beef, and liver—blended to provide variety in a highly nutritious kitten chow. Feline Friend fulfills adult-cat nutritional requirements. Independent of its pet food lines, the Pet Deli, Inc. offers a unique line of pet vitamins. The vitamins promote healthy skin and a full, glossy coat. For finicky pets, Pet Deli, Inc. manufactures nutritional treats. No salt or sugar is added to Pet Deli, Inc. treats or food.

If your instructor has asked you to print this presentation, do so now. Close all open files.

Projects 8 and 9 result from your job with the Liberty County Performing Arts Center.

8. You are preparing a presentation to be shown to charitable foundations and societies. Use the following information to complete the presentation. Create other information if you require it. Your finished presentation must have eight slides. It must feature two graphs or one graph and one table. Name the completed presentation ARTS_1.PPT and save it on the Project Disk. You must send a copy of the completed text to the director of the Performing Arts Center. Save this file as ARTS_1.DOC on the Project Disk.

The purpose of the presentation is to raise $1.5 million to produce a six-play season of children's theater in the J.G. Hiza Theater, one of three theaters in the Liberty County Performing Arts Center. You need to ask for funds from charitable organizations because state funding for the Performing Arts Center has decreased by 24 percent in the last two years. The financial pinch does not result from low attendance. In the last three years, the number of subscribers has risen from 1,245 to 1,390 and then to 1,485 last year. In addition, last year 924 Liberty County school children attended plays in the J.G. Hiza Theater. This theater is devoted exclusively to children's theater. It holds 220 audience members. The largest segment of the theater's budget is devoted to salaries. Theater staff salaries comprise 47 percent; utilities comprise 24 percent; sets comprise 12 percent; theater maintenance comprises 10 percent, and advertising comprises 7 percent. The theater staff has foregone salary increases the last two years. If the $1.5 million is not raised within four months, the season of plays will have to be canceled and staff layoffs will begin. If the season is canceled, the county will still have to continue theater building maintenance. At present, no other group has expressed an interest in leasing the theater. The Liberty County Performing Arts Center is a nonprofit organization. Contributions are tax deductible. Contributors so far include Mayor Eleanor Malamud; Johnny McClain, the local fire chief; Judges Avril Ramada and Valerie Greenfield; and real estate developer Bill Gatway. Current contributions total $197,000.

If your instructor has asked you to print this presentation, do so now. Close all open files.

9. This presentation is a follow-up to the first series of presentations you made to charitable foundations and societies in Liberty County. Open the ARTS_1.PPT presentation and save it as ARTS_2.PPT. Several organizations have contributed, but most have not. Of the $1.5 million you require to save the children's theater season, you have collected $374,000. Add a slide to the presentation. Title the slide **Current Contributions**. If you have not done so for project 8, create an Excel chart that reflects current contributions and total contributions required. Link the chart with the new slide you are adding. If necessary, reformat the chart so that it is easy to read against the background of the slide. If your instructor has asked you to print this presentation, do so now. Close all open files.

Select a partner for the next project, which concerns your work with the Vita Real Vitamins company.

10. It is time to create a 10-slide presentation for the Vita Real Vitamins company. Use any of the information you have created for any of the previous Vita Real projects to complete this presentation, including the WASHING.XLS spreadsheet and the VITOUT.DOC outline. Your audience for the presentation will be the dozen health food stores in the Washington cities of Spokane, Tacoma, and Seattle. Since you began the project in the last projects section, two stores in Washington have begun carrying Vita Real vitamins. These two stores—Health Day Foods in Tacoma and Evening Harvest in Spokane—have seen their vitamin sales increase by 2.1 percent and 2.6 percent, respectively. The company sales manager considers this to be a key element of your presentation. He wants the sales increases and names of the stores included. He also wants the chart you will use on the slide linked to the worksheet you will create in the WASHING.XLS spreadsheet. Because of the importance of this presentation, he wants to review the presentation tomorrow, during a business trip. He does not have PowerPoint on his laptop computer. He also wants a printout of the new worksheet and chart you will create. The sales manager prefers the TROPICS.PPT template and asks that you use it for this presentation. He wants the presentation to be at least 10 slides and prefers that it feature at least two graphs and one table, or three graphs. He asks that the company name appear on each slide.

If your instructor has asked you to print this presentation, do so now. Close all open files.

Select a partner for the next project, which concerns your work with the Grand Photo Lab.

11. You have compiled the results from your questionnaire. These results will affect the material you cover in your presentation. Only four of the eight bankers responding know that Grand Photo Lab has a second store. Only three of the bankers are interested in photography. Only two of the bankers know that Grand Photo Lab sells photography equipment. Use any material you have created so far in Grand Photo Lab–related projects to complete this presentation. Use the following information as you see fit to complete a 10-slide presentation.

Grand Photo Lab began in 1979 as a small photo shop. In Nebraska, there are 17 multiple-store photography businesses. Yet Grand Photo Lab is third in the state in terms of dollars generated per square foot of retail space. The following table describes the top five multiple-store photography businesses.

BUSINESS	MONTHLY INCOME (PER SQ. FT.)
Harry and Helen's	12.00
Photo Discount House	11.25
Grand Photo Lab	10.75
Black Cove Camera	10.30
Sunrise Photography	9.95

Grand Photo Lab hired the retail consulting firm of Curzon and Ho to determine where their third store should be located. Curzon and Ho recommended River Bend because it's near the state college campus. The new store would be within two miles of the campus. Curzon and Ho found that the state college has already attracted a number of firms that rely on photographic supplies or equipment, specialties of Grand Photo Lab. These include three professional newsletters, four advertising firms, seven professional photographers, and the state teacher's association. Because River Bend has no business that combines photography supplies with high-end technological photographic services, Curzon and Ho believe that a Grand Photo Lab store in River Bend would be profitable within 16 months of its opening. Curzon and Ho did find, however, that Photo Discount House, a rival company, is also investigating the River Bend area. So it is imperative that Grand Photo Lab begin construction within 60 days. Fortunately, a site has already been purchased. Grand Photo Lab only needs financing to begin construction on the site.

This presentation must be reviewed by Grand Photo Lab executives. Prepare a document that allows their review without their having PowerPoint. Save the presentation as RIVER_1.PPT on the Project Disk. If your instructor has asked you to print this presentation, do so now. Close all open files.

CAPSTONE PROJECTS

Perform the following actions to complete these projects. To conserve computer lab time, you may want to draft parts of these projects on paper.

Projects 1 through 4 concern your work with a dental office.

1. Susan Beauchere, DDS, wants to begin a mailing campaign to increase the number of her patients. Dr. Beauchere's address is 1090 Mount Blanc St., Watertown, MA 02172. Dr. Beauchere knows nothing about computers, but she knows that she wants a mailing—consisting of a one-page letter—sent to 3,000 local residents. You suggest using Word's mail merge feature in combination with Access. You begin by creating a letter. The letter should include Dr. Beauchere's mailing address. Add appropriate clip art to the letter for visual appeal. Type **Dr. Susan Beauchere, DDS** at the top of the letter in 14pt type. Use a font of your choosing. Base the body of the letter on the following paragraphs, which Dr. Beauchere wrote.

   > My name is Susan Beauchere, and I have been a dentist in the Watertown area for six years. My dedicated staff and I are ready to help you with your dental needs. We pride ourselves on making dental treatment affordable and convenient. We schedule evening appointments on Tuesday and Thursday nights until 7 p.m.
   >
   > We accept most major dental plans, and our staff is eager to help you with all insurance matters.

   Save the letter as SUSAN_1.DOC. Create a database of 10 residents (supply any information you require). Add merge fields to the letter to personalize it. Save this version of the letter as SUSAN_2.DOC. Save the database as DENTIST.MDB. If your instructor has asked you to do so, print a page of the merged letter. Close all open files. Do not save the merged letters document.

2. Dr. Beauchere was so impressed with the results of the sample mail merge that she wants to expand the size of her mailing. Instead of a mailing to 3,000 residents, she wants to distribute to 5,000 residents. She asks you to research the best way to distribute the mailings: Is it best to use the United States Postal Service, or is it better to hire an independent organization to place the letters or flyers on residents' doorsteps?

Dr. Beauchere asks you to relay your conclusions in a letter sent to her office. She asks that you include a table and chart to help her understand your reasoning. The table and chart should be based on the following information.

Local Media Ink and Crowley's Post will distribute mailings. Local Media Ink charges 4.75 cents per sheet. Crowley's Post charges 4.95 cents per sheet. Crowley's Post includes folding. Local Media Ink charges 0.05 cents per sheet for folding. Crowley's Post workers normally place the sheet (or sheets) on the doorstep. Local Media Ink wraps the sheet around the resident's doorknob with a rubber band. Crowley's Post will attach the sheet (or sheets) to the doorknob for 0.08 cents per sheet. The United States Postal Service charges 32 cents per letter and offers no folding services.

Because of the more formal impression it would make, you recommend mailing Dr. Beauchere's letter to residents via the U.S. Postal Service. You will also pay Crowley's Post 0.95 cents per letter to fold and stuff the letters into envelopes.

Create the table in Word. Create the chart in Excel. Save the letter as SUSAN_3.DOC. Save the Excel spreadsheet as SUSAN.XLS. If your instructor has asked you to do so, print the letter now. Close all open files.

3. Open the SUSAN_1.DOC letter. Save the letter as SUSAN_4.DOC. You will use this document as the basis for a PowerPoint presentation, which Dr. Beauchere will use as part of her staff training. Reformat the letter so that main ideas are formatted with the Heading 1 style. Format supporting ideas with the Heading 2 style. Supplement the new outline with the following ideas:

   Dr. Beauchere treats patients of all ages, but she specializes in the treatment of dental problems caused by aging. She wants patients to know that they don't have to put up with painful teeth simply because they are older. Untreated dental problems can lead to pain in the jaw or to headaches. Modern dentistry, however, can save most teeth. Gum disease, a leading cause of tooth loss, can often be treated.

   Dr. Beauchere wants you to add the following table to the presentation.

LEADING REASONS ELDERLY PATIENTS DELAY TREATMENT

REASON	PERCENT
Fear of pain	37
Inability to pay	33
Embarrassment at condition of teeth	16
Fear of being lectured	8
Fear of being treated without respect	8

Create at least a six-slide presentation, including a title slide.

Choose a partner for the next project, in which you will create a newsletter for Dr. Beauchere using the Newsletter Wizard.

4. Open the SUSAN_4.DOC document and save it as SUSAN_5.DOC. Reformat the information so that it is no longer an outline. Cut and paste text from the SUSAN_5.DOC file to the newsletter. Use the following information to create two additional newsletter articles:

Start children early on the road to dental health. Even children two or three years old can begin brushing their teeth. A good way to get them started is to brush your teeth with them. Make sure you start them with a toothbrush featuring soft bristles.

Our office features the services of two dental hygienists: Max Brower and Dorothy Shively. Max has had seven years of experience and is a native of Watertown. Dorothy has nine years of experience and was born and raised in Albany, New York. Besides cleaning patients' teeth, Max and Dorothy can offer patients tips to keep their teeth white and gums healthy.

Save the newsletter as SUSANNEW.DOC. If your instructor has asked you to do so, print the newsletter now. Close all open files.

Project 5 concerns your work with the Vita Real Vitamins company.

5. The Vita Real Vitamins company is ready to begin sales calls into the Spokane, Tacoma, and Seattle vitamin markets. You will create a letter from the sales manager, Jacob Apicella, asking each store manager for a convenient time when one of the salespersons can make a sales call. Be sure to include Vita Real's corporate address: 9000 Balm Road, Gresham, OR 97080. Make sure you include space for Jacob to sign the letter. You will insert merge fields in the finished letter and send the letter to 15 health food stores. Make sure to employ merge fields in the body of the letter, not just in the inside address and salutation. The necessary information on these stores is contained in the WASHIN_1.DOC file found on your Project Disk. Save the file as WASHIN_2.DOC on the Project Disk. After you have finished the merged letters, write a brief memo to Jacob Apicella. He wants you to create a chart that he will use during next week's sales meeting. He wants you to compare the number of Washington stores you are sending letters to with the number of health food stores that Vita Real first contacted in Oregon and California, when the company began years ago. He supplies the numbers. In Oregon, the number of stores was six. In California it was nine. When you have completed the chart, embed it in a PowerPoint slide. Jacob wants to add the slide to his weekly presentation. Use the TROPICS.PPT template. Save the presentation as JACOB_1.PPT. If your instructor has asked you to print any of these documents, do so now. Save and close all open files.

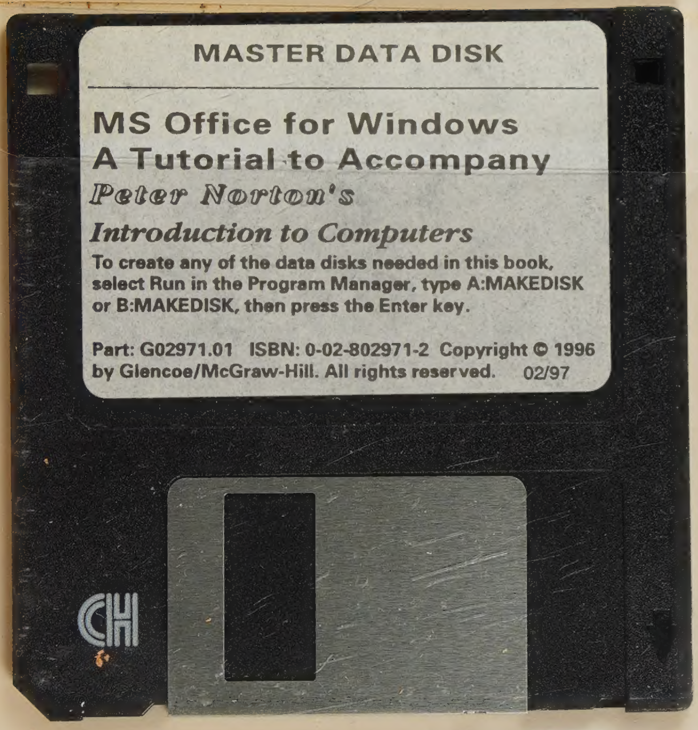
Project 6 concerns your work with Grand Photo Lab.

6. Grand Photo Lab has received financing for construction of its store in River Bend, Nebraska. You are given the task of completing a letter to the company vice president of financial services, describing plans for advertising the opening of the new store. You will use data compiled by other staff members. The letter is stored on your Student Data Disk as ADVERT_1.DOC. Open it and save it as ADVERT_2.DOC on the Project Disk. Add a date to the letter. Copy the names of the advertising companies from this letter to a worksheet in a new Excel spreadsheet. Name the spreadsheet ADVERT.XLS. Use the following information to complete the worksheet.

	FIRM		
SERVICE	**BERGIN**	**LAMONT**	**WILLIAMS**
Display ads	$14,000	$16,100	$19,400
Ad placement	26,000	27,100	28,900
Brochures	13,000	12,500	14,000
Radio spots	16,000	18,000	18,000
Campus events	4,000	5,000	4,000
Block party	10,000	9,000	8,000

Grand Photo Lab is still in negotiations with these firms, so the information in your worksheet will change. Link the worksheet to the ADVERT_2.DOC letter. To make sure the worksheet is not misunderstood, copy the second paragraph of the letter to the worksheet, placing it two rows below the worksheet. Chart the worksheet and link the chart with the letter. If the letter runs to a second page, make sure that Grand Photo Lab appears on every page.

To complete this project, you are going to send a letter to 12 photographers in the River Bend area, announcing that a new Grand Photo Lab will be opening in their area within six months. First, supply names (including middle initial), addresses, cities, states, ZIP codes, salutations, and newspaper names for the 12 photographers. Enter the information in an Access database. Save the database file as PHOTOG_1.MDB. The letter that will serve as your main document, PHOTOG_1.DOC, is on your Project Disk. Save it as PHOTOG_2.DOC on the Project Disk. The letter is addressed to Linda Atwater, one of the photographers on your list. Replace information specific to Ms. Atwater with merge fields. Include the name of the local newspaper. Add a date to the letter. If your instructor has asked you to print any documents, do so now. Save and close all open files.



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